



Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit

Developer's Manual

February 2004

Order Number: 301061



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Contents

1	About This Manual.....	7
1.1	Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit.....	7
1.2	Text Conventions.....	7
1.3	Units of Measure.....	8
1.4	Technical Support.....	8
1.4.1	Electronic Support Systems.....	8
1.4.2	Online Documents	9
1.4.3	Additional Technical Support	9
1.5	Product Literature	9
1.6	Related Documents	9
2	Getting Started	10
2.1	Overview	10
2.2	Evaluation Board Features	10
2.2.1	Processor.....	10
2.2.2	Intel® 875P MCH with Intel® 6300ESB ICH Chipset	10
2.2.3	Flash System BIOS ROM	11
2.2.4	System I/O	11
2.3	Included Hardware.....	11
2.4	Software Key Features	12
2.5	Before You Begin.....	12
2.6	Setting up the Evaluation Board	13
2.7	Configuring the BIOS.....	18
3	Theory of Operation.....	19
3.1	Block Diagram	19
3.2	Thermal Management.....	19
3.3	System Features.....	20
3.3.1	Intel® Pentium® 4 Processor	21
3.3.2	Intel® 875P MCH with Intel® 6300ESB ICH Chipset	21
3.3.3	Intel® 82802AB Firmware Hub (FWH)	22
3.3.4	Boot ROM	22
3.3.5	System I/O	22
3.3.6	In-Target Probe (ITP).....	25
3.3.7	Clock Generation	26
3.3.8	Power Supply Requirements	26
3.4	Battery Requirements	26
4	Hardware Reference	27
4.1	Chipset Components	28
4.2	Expansion Slots and Sockets	28
4.2.1	32-Bit PCI Connector	28
4.2.2	64-Bit PCI-X Connector	30
4.2.3	AGP Connector.....	32
4.2.4	Processor Socket.....	33
4.2.5	Firmware Hub (FWH) BIOS Socket	33
4.2.6	Battery	33

4.3	On-Board Connectors.....	34
4.3.1	ATX Power Connectors	35
4.3.2	Power On/Off	35
4.3.3	SATA Connectors.....	35
4.3.4	Serial Port Connectors.....	36
4.3.5	IDE Connector	36
4.3.6	Floppy Drive Connector	37
4.3.7	ITPFlex Connector.....	37
4.3.8	Front Panel Connector.....	37
4.3.9	Fan Connectors	38
4.4	DDR SDRAM Slots	38
4.5	Jumpers.....	39
4.5.1	SMBUS Headers	42
4.6	Back Panel Connectors	43
4.6.1	Dual Stacked USB Connector	43
4.6.2	PS/2-Style Mouse and Keyboard Connectors	43
4.6.3	Parallel Port	44
4.6.4	Serial Ports	44
4.6.5	Gigabit Ethernet RJ-45 Connector.....	45

Figures

1	Board Before Additional Hardware is Installed	13
2	Side View of Fan Heatsink after Proper Installation	15
3	Top View of the Development Board with Hardware Installed	17
4	Block Diagram of Layout	19
5	ITP location.....	25
6	Board Layout Diagram.....	27
7	Locations of the On-Board Connectors	34
8	DDR SDRAM slots	38
9	Jumper Locations	41
10	Jumper Locations Continued	42
11	Back Panel Connectors	43

Tables

1	Related Documents	9
2	Additional Hardware	12
3	System Clocks	26
4	Chipset Components	28
5	Expansion Slots and Socket	28
6	32-bit 5 V PCI Connector Pinout	28
7	64-bit 3.3 V PCI-X Connector Pinout	30
8	AGP Slot connector Pinout.....	32
9	On-Board Connectors.....	35
10	IDE Connector Pinout.....	36
11	Floppy Drive Connector Pinout.....	37
12	Front Panel Connector	38
13	DDR SDRAM Slots.....	38

14	FSB and DDR speeds	39
15	Jumpers and Jumper Functions	39
16	SMBUS 3.3 V STBY Pinout Description	42
17	USB Connector Pinout.....	43
18	PS/2-Style Mouse and Keyboard Pinout	43
19	Parallel Port Connector Pinout	44
20	Serial Port Connector Pinout	44
21	Gigabit Ethernet RJ-45 Connector Pinout	45
22	Bill of Materials	46

Revision History

Date	Revision	Description
February 2004	001	Initial Release

About This Manual

1

This manual describes how to set up and use the evaluation board and other components included in your and Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit.

1.1 Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit

[Chapter 1, “About This Manual”](#) – This chapter contains a description of conventions used in this manual and instructions for obtaining literature and contacting customer support.

[Chapter 2, “Getting Started”](#) – Provides complete instructions on how to configure the evaluation board and processor assembly by setting jumpers, connecting peripherals, providing power, and configuring the BIOS.

[Chapter 3, “Theory of Operation”](#) – This chapter provides information on the system design.

[Chapter 4, “Hardware Reference ”](#) – This chapter provides a description of jumper settings and functions, and pinout information for each connector.

[Appendix A, “Bill of Materials”](#) – This appendix contains the bill of materials for the evaluation board.

[Appendix B, “Schematics ”](#) – This appendix contains schematics for selected connectors and subsystems for the evaluation board.

1.2 Text Conventions

The following notations may be used throughout this manual.

- The pound symbol (#) appended to a signal name indicates that the signal is active low.

Variables - Variables are shown in italics. Variables must be replaced with correct values.

Instructions - Instruction mnemonics are shown in uppercase. When programming, instructions are not case-sensitive. Use either upper- or lowercase.

Numbers - Hexadecimal numbers are represented by a string of hexadecimal digits followed by the character H. A zero prefix is added to numbers that begin with A through F. (For example, FF is shown as 0FFH.) Decimal and binary numbers are represented by their customary notations. (That is, 255 is a decimal number and 1111 1111 is a binary number. In some cases, the letter B is added for clarity.)

Signal Names - Signal names are shown in uppercase. When several signals share a common name, an individual signal is represented by the signal name followed by a number, while the group is represented by the signal name followed by a variable (n). For example, the lower chip-select

signals are named CS0#, CS1#, CS2#, and so on; they are collectively called CSn#. A pound symbol (#) appended to a signal name identifies an active-low signal. Port pins are represented by the port abbreviation, a period, and the pin number (e.g., P1.0).

1.3 Units of Measure

The following abbreviations are used to represent units of measure:

A	amps, amperes
GB	GByte, gigabytes
GHz	gigahertz
KB	KByte, kilobytes
K Ω	kilo-ohms
mA	milliamps, milliamperes
MB	MByte, megabytes
MHz	megahertz
ms	milliseconds
mW	milliwatts
ns	nanoseconds
pF	picofarads
W	watts
V	volts
μ A	microamps, microamperes
μ F	microfarads
μ s	microseconds
μ W	microwatts

1.4 Technical Support

1.4.1 Electronic Support Systems

Intel's site on the World Wide Web (<http://www.intel.com/>) provides up-to-date technical information and product support.

1.4.2 Online Documents

Product documentation is provided online in a variety of web-friendly formats at:

http://www.intel.com/platforms/applied/eiacomm/reference_configs.htm

1.4.3 Additional Technical Support

If you require additional technical support, please contact your field sales representative or local distributor.

1.5 Product Literature

You can order product literature from the following Intel literature centers:

1-800-548-4725	U.S. and Canada
708-296-9333	U.S. (from overseas)
44(0)1793-431155	Europe (U.K.)
44(0)1793-421333	Germany
44(0)1793-421777	France
81(0)120-47-88-32	Japan (fax only)

1.6 Related Documents

Table provides a partial list of the available collateral. For a full list, contact your local Intel representative.

Table 1. Related Documents

Document	Document Number
<i>82547GI GBE Controller Datasheet</i>	252457-001
<i>82540EI GBE Controller Datasheet</i>	
<i>Intel® 875P/6300ESB Schematic Archive (concept)</i>	Contact Intel Field Representative
<i>Intel® 875P/6300ESB Board File (Allegro)</i>	Contact Intel Field Representative
<i>Intel®6300ESB I/O Controller Hub (ICH) Datasheet</i>	Contact Intel Field Representative
<i>Intel® 875P Memory Controller Hub (MCH) Datasheet</i>	252525-001
<i>Intel® 875P Memory Controller Hub (MCH) Specifications Update</i>	252526-001
<i>Intel® 875P Chipset Memory Configuration Guide</i>	252730-001
<i>Intel® 875P/E7210/6300ESB Chipset Platform Design Guide</i>	15291

Getting Started

2

This chapter identifies the Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit's key components, features and specifications. It also describes how to set up the board for operation.

Note: This manual assumes you are familiar with basic concepts involved with installing and configuring hardware for a PC or server system.

2.1 Overview

The development kit contains a baseboard with an Intel® Pentium 4® Processor, Intel® 875P MCH with Intel® 6300ESB ICH Chipset, and other system board components and peripheral connectors. Various software and documentation are also included in the kit.

Note: The evaluation board is shipped as an open system with stand-offs allowing for maximum flexibility in changing hardware configuration and peripherals in a lab environment. Since the board is not in a protective chassis, the user is required to observe extra precaution when handling and operating the system. Some assembly is required before use.

Caution: There is a missing AT mounting hole under the PCI-X connector. Use caution if mounting in a chassis.

2.2 Evaluation Board Features

The evaluation board features are summarized in the next sections.

2.2.1 Processor

- Optimized for the Intel® Pentium® 4 Processor with HT Technology, Intel® Pentium 4® Processor, and related Intel® Celeron® Processors in 800/533/400 MHz FSB.

2.2.2 Intel® 875P MCH with Intel® 6300ESB ICH Chipset

- Supports Intel® 875P MCH with 800/533/400 MHz system bus
- Supports Intel® 6300ESB ICH
- Dual channel unbuffered DDR at a maximum of 2 GBytes/channel
- Supports 400/333/266 MHz DDR devices
- ECC support

2.2.3 Flash System BIOS ROM

- 512 Kbyte

2.2.4 System I/O

- Three PCI slots
- Two PCI-X slots
- One CNR slot (USB and AC'97)
- Four USB 2.0 ports (Two in the back and two in the front)
- Two Serial ATA connectors
- Two Parallel ATA connectors
- Two serial ports from Intel® 6300ESB ICH
- One serial port header from Super I/O
- One parallel port from Super I/O
- Two PS/2 ports from Super I/O
- One floppy connector from Super I/O
- Gigabit Ethernet (GbE) off of CSA and PCI-X
- Line IN, Line Out, and MIC IN connectors

2.3 Included Hardware

The following hardware is included in the development kit:

- One Intel® Pentium 4® Processor (installed in socket)
- One CPU heatsink
- Standoffs
- Three additional tabbed jumpers
- Two 256-MByte, DDR 333 with ECC DIMMs
- CD including INF chipset utilities, Windows* drivers package, and Linux drivers package
- IDE, SATA and Floppy Drive Cables

2.4 Software Key Features

The software in the kit was chosen to facilitate development of real-time applications based on the components used in the evaluation board.

Note: Software in the kit is provided free by the vendor and is only licensed for evaluation purposes.

Refer to the documentation in your development kit for further details on terms and conditions that may be applicable to the granted licenses. Customers using tools that work with other third party products must have licensed those products. Any targets created by those tools should also have appropriate licenses. Software included in the kit is subject to change.

Refer to <http://developer.intel.com/design/intarch/devkits> for details on additional software from other third party vendors.

2.4.0.1 AMIBIOS* for the Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit

The evaluation board is pre-installed and licensed with a copy of AMIBIOS8* from American Megatrends*.

2.5 Before You Begin

Table 1 presents additional hardware you may need for your development kit.

Table 2. Additional Hardware

VGA card and Monitor	You can use any standard VGA or greater resolution monitor.
Keyboard	You can use a keyboard with a PS/2 style connector or adapter as well as a USB.
Mouse	You can use a mouse with a PS/2 style connector or adapter as well as USB or serial style connector.
Hard Drives	You can connect up to four IDE and two SATA devices to the evaluation board.
Floppy Drive (optional)	You can connect up to two floppy drives to the connector on the evaluation board. No floppy drives are included in the development kit.
Network Adapter (optional)	Intel® 82547GI and Intel® 82540EI Gigabit Ethernet Controllers are devices included on this evaluation board. A CAT-5 cable with an RJ-45 connector is required to connect these Ethernet adapters to your network. You may use a different network card other than the controller included on the board; however, you are responsible for installing the correct drivers for any additional network cards.
Other Devices and Adapters	The evaluation board behaves much like a standard PC motherboard. Many PC-compatible peripherals can be attached and configured to work with the evaluation board. For example, you may want to install a sound card or additional network adapters. You are responsible for procuring and installing any drivers required for additional devices.

2.6 Setting up the Evaluation Board

Once you have gathered the hardware described [Section 2.5](#), follow the steps below to set up your development kit.

Note: This manual assumes you are familiar with basic concepts involved with installing and configuring hardware for a PC or server system.

Refer to [Figure 7](#), [Figure 9](#) and [Figure 10](#) for locations of connectors, jumpers, and other board components and [Figure 11](#) for locations of back panel connectors.

Figure 1. Board Before Additional Hardware is Installed



1. **Ensure a safe work environment.** Make sure you are in a static-free environment before removing any components from their anti-static packaging. The evaluation board is susceptible to electrostatic discharge, which may cause product failure or unpredictable operation.

Caution: Connecting the wrong cable or reversing a cable may damage the evaluation board and may damage the device being connected. Since the board is not in a protective chassis, use caution when connecting cables to this product.

2. **Verify kit contents.** Inspect the contents of your kit and ensure that everything listed in [Section 2.3](#) is included. Check for damage that may have occurred during shipment. Contact your sales representative if any items are missing or damaged.

3. **Check jumper settings.** Verify that the jumpers are set in their default state. Refer to [Table 14](#) for detailed descriptions of all jumpers and their default settings indicated in bold.

Caution: There is a missing AT mounting hole under the PCI-X connection. Use caution if mounting in a chassis.

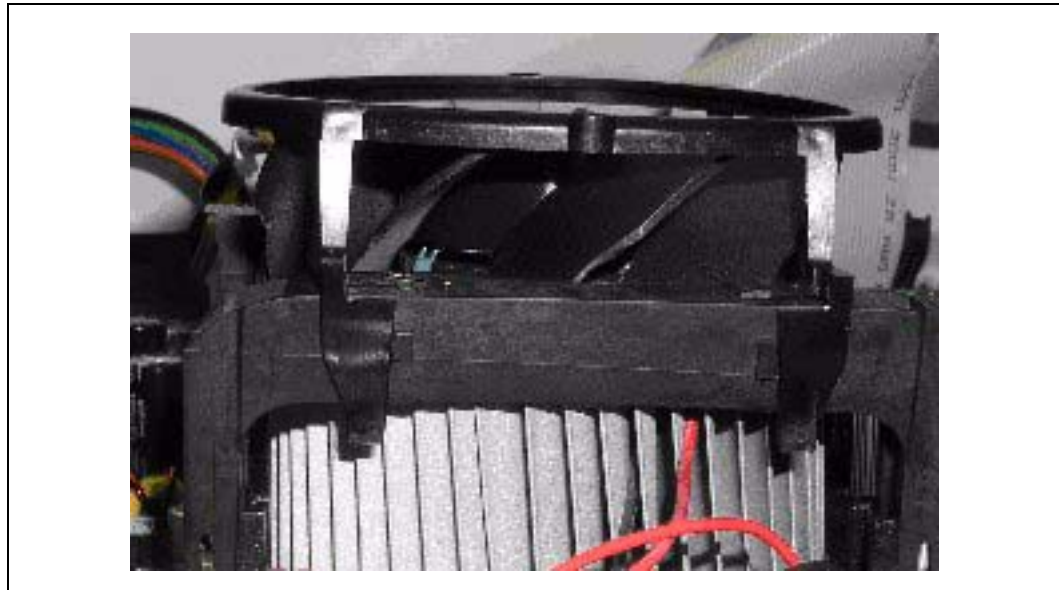
4. **Verify installed hardware.** Make sure the following hardware is populated on your evaluation board:

- One Intel® Pentium 4® Processor
- BIOS FWH in socket U7K1
- Battery in holder
- Heatsink on Intel® 875P MCH

Note: The above hardware should have been correctly installed at the factory. If they are not installed correctly, **DO NOT** power on the board. Correctly re-install the components before proceeding. If you suspect that any of the kit components have been damaged, contact your Intel field sales representative or local distributor for assistance.

5. **CPU Heatsink Installation.** In order for the board to operate properly a heatsink must be installed on the processor. **DO NOT** power on board without a CPU thermal solution.
 - a. Ensure that the CPU heatsink Retention Mechanism (RM) is properly installed on the board. The plastic rivets of the RM should protrude through the board and the pushpins should be pushed until they are fully seated.
 - b. Apply thermal grease to center of the Intel® Pentium 4® Processor Integrated Heat Spreader (IHS).
 - c. Place the fan heatsink on top of the processor and engage the opposite corners of the clip through the windows on the RM. Then press on the other two opposing corners with finger-tabs so that the clip is fully engaged with the RM. Ensure that the heatsink is flat against the processor IHS and is not tilted.
 - d. Plug the three-pin fan heatsink power connector into connector J8E1 or J7B2 on the evaluation board. The fan heatsink power connector only fits the header in one orientation.

Figure 2. Side View of Fan Heatsink after Proper Installation



Caution: Applying excess pressure may cause damage to the CPU.

Note: Do not turn power on until the CPU thermal solution has been installed.

6. **Install memory.** The kit includes two 256 MByte ECC DIMMs. To install, ensure the tabs on the slot are open, or rotated outward from the slot. Line up the DIMM above the slot (the DIMM is keyed so that it only fits in the slot in one orientation). Firmly, but carefully, insert the DIMM into the slot until the tabs close. Repeat for all other DIMM and slots.

Caution: Do NOT bend the board when installing memory. There are a large number of components near the memory slots and excessive board flex can lead to solder joint failure.

7. **Install storage devices.** There are two IDE connectors on the evaluation board, which support four IDE devices. For a correct boot-up of the system, ensure that a hard drive is installed as the primary master. (Master/slave settings are determined by a jumper on each IDE device. Consult the device label/documentation to verify that the jumper is set correctly for any configuration you choose.) A CD-ROM drive or additional hard drive may be installed as a primary slave device. To install a hard drive on the evaluation board:
 - a. Verify that the jumper on the hard drive is set correct for single or master, depending on your configuration.
 - b. Install the hard drive. This can be done using either the IDE or SATA. The hard drive is not included in this development kit.
- Install using IDE:
 - Connect the short end of the IDE cable to the IDE connector J5J1 on the board. Ensure that the red line, pin one on the cable, is aligned with pin one of the connector indicated by an arrow.

- Connect the middle connector of the cable to the hard drive. Again, ensure that the red line, pin one on the cable, is aligned with pin one on the hard drive.

Note: Failure to properly align the IDE cable may damage the evaluation board and/or the hard drive.

- Install using SATA:
 - Connect one end of SATA cable to hard drive connection. Connect other end to jumper J3H2 or J3H3 on board.
- c. Connect a power connector from the power supply to the hard drive.
- d. Install the CD-ROM drive (optional). A CD-ROM drive is not included in the kit and is not required, but you may find it useful in loading additional software. To install it on the evaluation board:
 - Verify that the jumper on the CD-ROM drive is set for slave.
 - Connect the unused end of the IDE cable to the CD-ROM drive. Ensure that the red line, pin one on the cable, is aligned with pin one of the CD-ROM drive connector.
 - If not already connected to the board, connect IDE cable to connector J5H2.
 - Connect a large 4-pin power connector from the power supply to the CD-ROM drive.
- e. Install the floppy drive (optional). A floppy disk drive is not included in your kit and is not required, but you may find it useful in loading additional software. You must furnish your own floppy drive(s). To install a floppy drive on the evaluation board:
 - Connect the floppy cable to the floppy connector J7J1. Ensure that the red line, pin one on the cable, is aligned with pin one of the connector, indicated by an arrow.
 - Connect the other end of the floppy cable to the floppy drive.
 - Connect a power cable to the floppy drive. Ensure that the red line, pin one on the cable, is aligned with pin one on the floppy drive.

Note: Storage devices are not included in this development kit.

8. **Connect the video card and monitor.** Insert a video card into the appropriate slot. Connect the monitor cable and power to the video card port.
9. **Connect the keyboard and mouse.** Connect a PS/2 mouse and keyboard to the stacked PS/2 connector on the evaluation board. The bottom connector, often purple, is the keyboard connector and the top, often green, is the mouse connector. Alternatively, you may plug a USB keyboard and a USB mouse into one or both of the USB connectors on the evaluation board.
10. **Connect the network cable(s).** Connect a CAT-5 cable with an RJ-45 connector to the Gigabit Ethernet port. Connect the other end of the cable to your network (for example, the hub, switch, or network port).

Note: Standby voltages will be applied to the board whenever AC power is supplied. To completely power down the board, make sure to unplug the power supply from the wall. Depending on how the board was last powered off, it may turn on when the AC power is connected with no need to push the power button.

11. **Connect the power supply.** Make sure the power supply is turned off and unplugged. Connect the, Intel® Pentium 4® Processor compatible, ATX power supply to connectors J9J1 and J8E2 on the evaluation board. Next, plug the power cord into the power supply and the wall.
12. **Power up the system.** Turn on the ATX power supply, the monitor, and the evaluation board respectively. To power the evaluation board use the power on/off jumper located at J2H1.

Figure 7 shows the location of the power on/off jumper. Place one of the tabbed jumpers on jumper J2H1 and remove it immediately. The system will now power on.

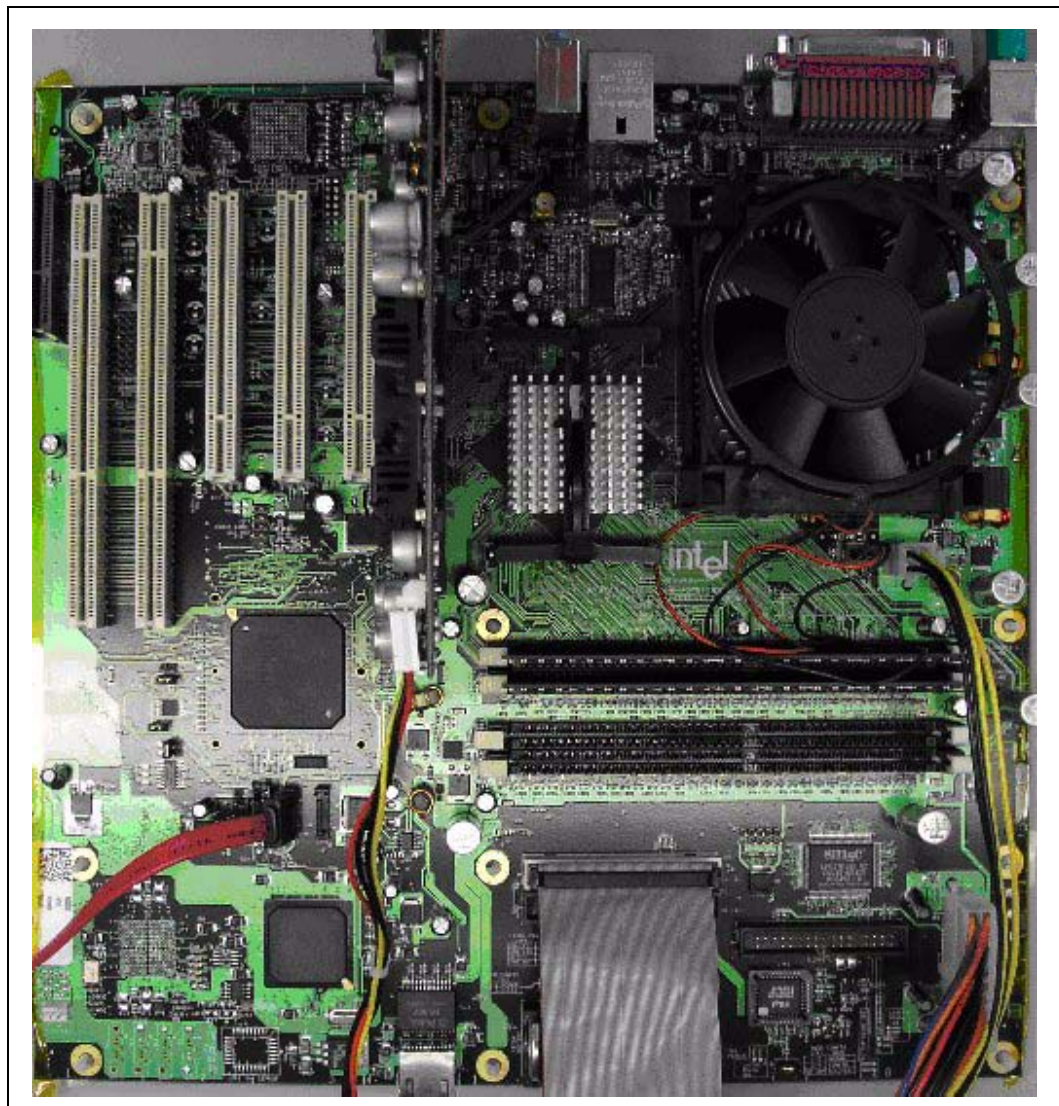
Note: Do not leave the jumper on J2H1 or system will continually power on and then power off.

Note: Do not turn power on until CPU thermal solution has been installed.

Caution: Ensure that the fan heatsink on the processor is operating. If not, turn off the power immediately and verify that the fan heatsink is connected to the board correctly (see Step 5). If the fan heatsink is not operating, contact your Intel field sales representative or local distributor.

Figure 3 shows a top view of development board with installed hardware.

Figure 3. Top View of the Development Board with Hardware Installed



2.7 Configuring the BIOS

An AMI* BIOS is pre-loaded on the evaluation board. You may need to make changes to the BIOS to enable hard disks, floppy disks and other supported features. You may use the setup program to modify BIOS settings and control the special features of the system. Setup options are configured through a menu-driven user interface.

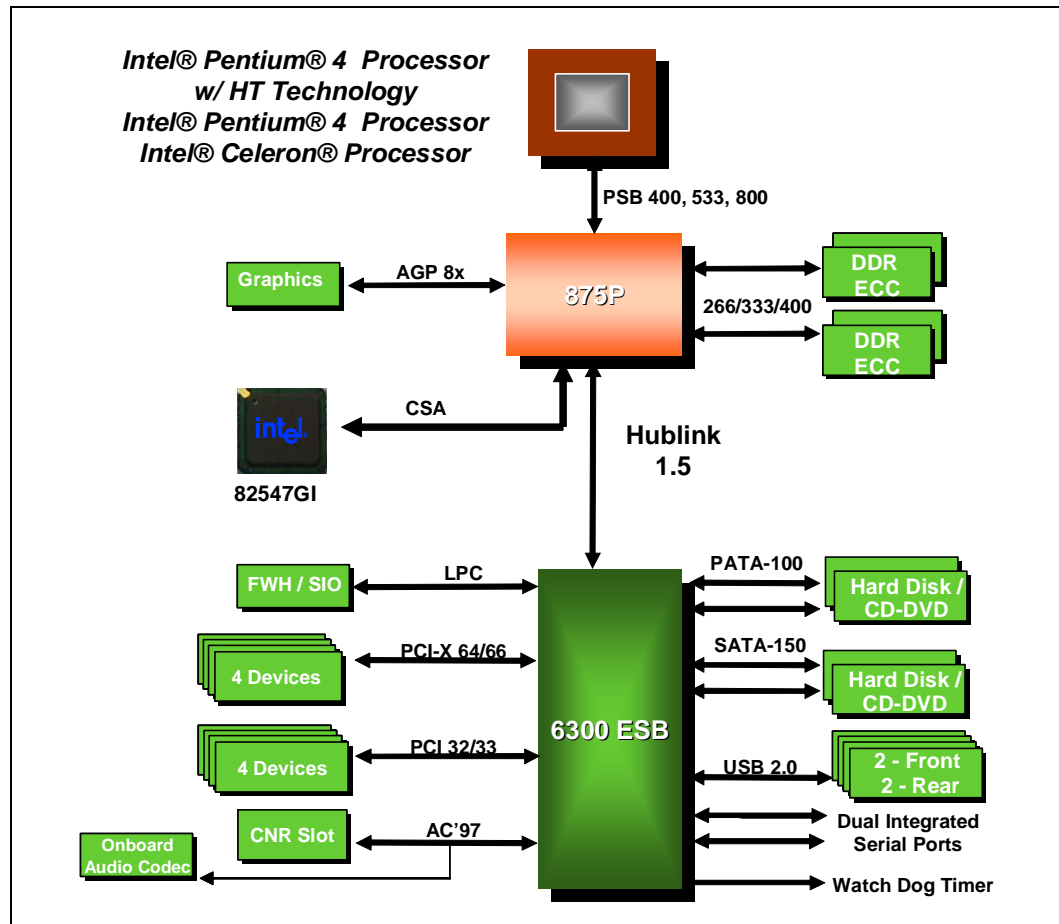
On first boot-up of the system, you may want to use the BIOS setup program to verify the date/time and boot device. BIOS updates may periodically be posted to the Intel Developer web site at <http://developer.intel.com/design/intarch>. Pressing the Delete key during boot causes the system to enter into the BIOS setup program.

Theory of Operation

3

3.1 Block Diagram

Figure 4. Block Diagram of Layout



3.2 Thermal Management

The objective of thermal management is to ensure that the temperature of each component is maintained within specified functional limits. The functional temperature limit is the range within which the electrical circuits may be expected to meet their specified performance requirements. Operation outside the functional limit may degrade system performance and cause reliability problems. The development kit is shipped with fansink thermal solutions to be installed on the processor. This thermal solution has been tested in an open air environment at room temperature and is sufficient for evaluation purposes. The designer must ensure that adequate thermal management is provided for any customer-derived designs.

3.3 System Features

Processor:

- Intel® Pentium® 4 Processor with HT Technology
- Intel® Pentium 4® Processor
- Intel® Celeron® Processor
- 800/533/400 MHz FSB

Chipset:

- Intel® 875P MCH with 800/533/400 MHz system bus support
- Intel® 6300ESB ICH with PCI-X 66 MHz support

Memory:

- Unbuffered DDR 400/333/266 ECC supported
- Four DIMMs, 2 GByte maximum per channel

Graphics:

- AGP Pro 4X/8X 1.5V Connector

Expandability

- Three PCI slots
- Two PCI-X slots
- One CNR (USB and AC'97)
- Four USB 2.0 ports (Two back, two front)
- Two Serial ATA connectors
- Two Parallel ATA connectors that supports four devices
- Two serial ports from Intel® 6300ESB ICH
- One serial port header from Super I/O
- One parallel port from Super I/O
- Two PS/2 ports from Super I/O
- One floppy connector from Super I/O

Connectivity skew options

- GbE through CSA
- GbE through PCI-X

Audio

- AC'97 integrated audio:four channel
- Front (L&R), Rear (L&R)line in, Mic-in
- Front Panel header (headphone out & microphone)

- Multi-channel audio support via CNR upgrade cards

Other Features

- SMBUS 2.0 on all PCI slots (supports ASF PCI LAN)
- PC2001 compliant feature set
- Instantly Available PC (STR & PCI 2.3 compliant)
- ACPI 1.0b, WfM 2.0 compliant
- VRM 10.0

Board Form Factor

- Six layer AT (12" x 12")
- $60 \Omega \pm 15\%$

3.3.1 Intel® Pentium® 4 Processor

Intel® Pentium 4® Processor at 2.8 GHz 533 FSB is provided.

Note: For additional CPU's contact your local Field Representative.

3.3.2 Intel® 875P MCH with Intel® 6300ESB ICH Chipset

The features of this chipset are characterized below.

3.3.2.1 Intel® 875P Memory Controller Hub (MCH)

The Intel® 875P MCH is designed for use with a single UP capable processor in the 478-pin package. The role of the Intel® 875P MCH is to arbitrate the flow of information between the five system interfaces: system bus (FSB), system memory, AGP, Hub Interface, and CSA interface. Features include:

- Supports 800/533/400 FSB
- Single/Dual channel DDR-266/333/400 support with ECC
- Up to 4 Gbyte array support with 512 Mbyte technology
- Up to 6.4 Gbyte/s maximum b/w
- Unbuffered DIMM support
- Direct-connect GbE CSA port
- AGP Pro 4X/8X 1.5V
- Hublink 1.5

3.3.2.2 Intel® 6300ESB I/O Controller Hub (ICH)

The Intel® 6300ESB ICH is designed for a variety of processors/memory controller hubs and contains enhancements to the Intel® ICH4 and Intel® ICH5. Features include:

- PCI, PCI-X, USB2.0, ATA100, SATA, WDT
- Hub Interface 1.5
- Serial Interface Unit
- Port 60/64 emulation
- Allows user to boot without Super I/O
- 37 GPIOs including four high drive and five blinking
- AC'97 integrated audio
- LPC

3.3.3 Intel® 82802AB Firmware Hub (FWH)

A socketed FLASH device is used to store system BIOS and video BIOS, as well as an Intel® Random Number Generator (RNG). A bootblock locking jumper is provided to allow a mechanical means of protecting the bootblock BIOS firmware. All BIOS programming is controlled via software. FWH Features include:

- 32-pin PLCC package
- Symmetrically-blocked flash memory array (64 Kbyte)
- Pin and register-based block locking
- Integrated hardware RNG
- Single-byte read/write
- Five GPIOs

3.3.4 Boot ROM

The system boot ROM is installed on the Intel® 82802AB FWH device. The FWH is addressable on the LPC bus off the Intel® 6300ESB ICH.

3.3.5 System I/O

The evaluation board contains the following I/O devices:

- Floppy controller support
- Primary and secondary IDE interface (supports four drives)
- Three serial ports (two on the back panel and one on the front header)
- One parallel port
- Four USB ports (two on the back panel, two on the front header)
- AGP connector

- AC'97 specification compliant audio
- Line Out, Line IN, and MIC IN connectors
- PS/2-style keyboard and mouse ports
- Three PCI Slots
- Two PCI-X Slots
- WDT
- Two SATA connectors
- One CNR slot (USB and AC'97)
- GbE from PCI-X 66 MHz
- GbE from CSA

Refer to [Section 4.3, Figure 7](#) for on-board connectors, [Section 4.5, Figure 9](#), and [Figure 10](#) for locations of sockets and jumpers, and to [Section 4.6, Figure 11](#) for the locations of the back panel connectors.

3.3.5.1 Floppy Disk Drive Support

The evaluation board provides one 34-pin floppy, which supports up to two floppy drives.

3.3.5.2 IDE Device Support

The evaluation board has a 40-pin connector for the two IDE controllers present in the Intel® 6300ESB ICH. Each connector supports up to one master and one slave IDE device.

3.3.5.3 RS-232 Serial Port

The evaluation board provides three built-in serial ports, two from Intel® 6300ESB ICH.

3.3.5.4 IEEE 1284 Parallel Port

The evaluation board provides one 25-pin DSUB IEEE 1284 Standard/EPP/ECP parallel port.

3.3.5.5 USB Ports

The evaluation board contains two UHCI Host Controllers and one EHCI Host Controller. Each UHCI Host Controller includes a root hub with two separate USB ports each, for a total of four legacy USB ports. The EHCI host Controller includes a root hub that supports up to four USB 2.0 ports. A maximum of four USB ports are supported at any given time. The connection to either a UHCI or the EHCI is dynamic and dependant on the USB device capability meaning that all ports support High Speed/Full Speed/ Low Speed (HS/FS/LS).

3.3.5.6 AGP Connectors

The evaluation board has one AGP Pro 4X/8X 1.5V connector. Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit supports AGP 3.0 and 2.0 specifications. Circuitry onboard will automatically switch the chipset's operation between the two based on what card is plugged in.

3.3.5.7 AC'97 Audio

The evaluation board has AC'97 audio. The digital link in this development kit is AC'97 Rev.2.2 compliant, supporting up to three codecs with independent PCI functions for audio and modem. Audio capability is expanded with support for up to six channels of PCM audio output (full AC3 decode).

3.3.5.8 Line Out, Line IN, and MIC IN connectors

The evaluation board provides Line Out, Line IN, and MIC IN connectors.

3.3.5.9 Keyboard/Mouse Ports

The evaluation board provides one stacked PS/2 connector for a keyboard and mouse. The top connector is for the mouse and the bottom connector is for the keyboard.

3.3.5.10 PCI Slot

The evaluation board has three 32-bit/33 MHz PCI connectors on the evaluation board, which supports 3.3 V and 5 V devices.

3.3.5.11 PCI-X Slot

The evaluation board has two 64-bit/66 MHz PCI-X connectors, which only supports 3.3V devices. The PCI-X bus is capable of supporting 4 masters and has support for 64 bit addressing using DAC protocol. The PCI-X bus supports PCI 2.2 specification at 33 MHz and at PCI 64/66MHz. PCI-X 133/100 MHz is not supported. The PCI-X 66 MHz bus may support up to 533 Mbytes transfers.

3.3.5.12 Watchdog Timer (WDT)

The evaluation board contains the Watchdog Timer (WDT) feature, which provides unassisted reboot upon system hang. It also supports two modes: free running or WDT.

3.3.5.13 Serial ATA

The evaluation board includes two integrated Serial ATA devices. The SATA controllers are completely software transparent with IDE interface, while providing a lower pin count and higher performance.

3.3.5.14 Communications Network Riser (CNR)

A CNR slot is included on this evolution board which allows flexibility for multiple configurations on a single card to extend USB, LAN, and audio.

3.3.5.15 Intel® 82544EI Gigabit Ethernet (GbE) Controller

The evaluation board includes Intel® 82544EI GbE Controller. This GbE controller provides a direct 32/64 bit, 33/66 MHz interface to the PCI-X bus at clock rates up to 133 MHz; however this evaluation board only supports PCI-X bus at clock rates up to 66 MHz.

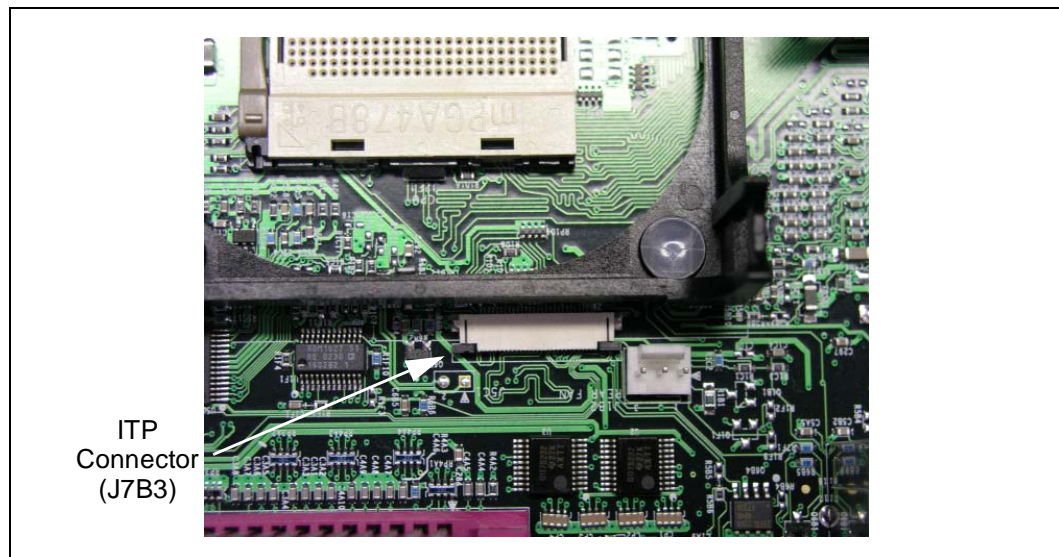
3.3.5.16 Intel® 82547GI Gigabit Ethernet (GbE) Controller

The evaluation board includes Intel® 82547GI GbE Controller enabling full-duplex Gigabit throughput and higher platform performance with Communication Streaming Architecture (CSA). The Intel® 82547GI GbE Controller bypasses the PCI bus, freeing its bandwidth for other I/O operations, and connects to the dedicated CSA bus on the Intel® 875P MCH.

3.3.6 In-Target Probe (ITP)

The evaluation board contains an in-target probe (ITP) connector for an ITPFlex. You must use an ITPFlex specific to the Intel® Pentium 4® Processor. Other ITPs do not work and if installed, could damage the platform and/or the ITP. Figure 5 shows that the ITP connector is located between the processor and the back panel connectors at jumper J7B3.

Figure 5. ITP location



3.3.7 Clock Generation

The clock synthesizer on the baseboard generates and distributes the clocks used by the entire system. [Table 2](#) gives a list of the system clocks.

3.3.7.1 System Clocks

Table 3. System Clocks

Clock Name	Clock Speed
PCI	33 MHz
PCI-X	66 MHz
SATA	100 MHz
Real Time Clock (RTC)	4.318 MHz
USB	48 MHz
APIC	33 MHz

3.3.8 Power Supply Requirements

Intel® 875P MCH with Intel® 6300ESB ICH Chipset Development Kit uses an Intel® Pentium 4® Processor compatible ATX power supply. The power supply is not included in this development kit.

3.4 Battery Requirements

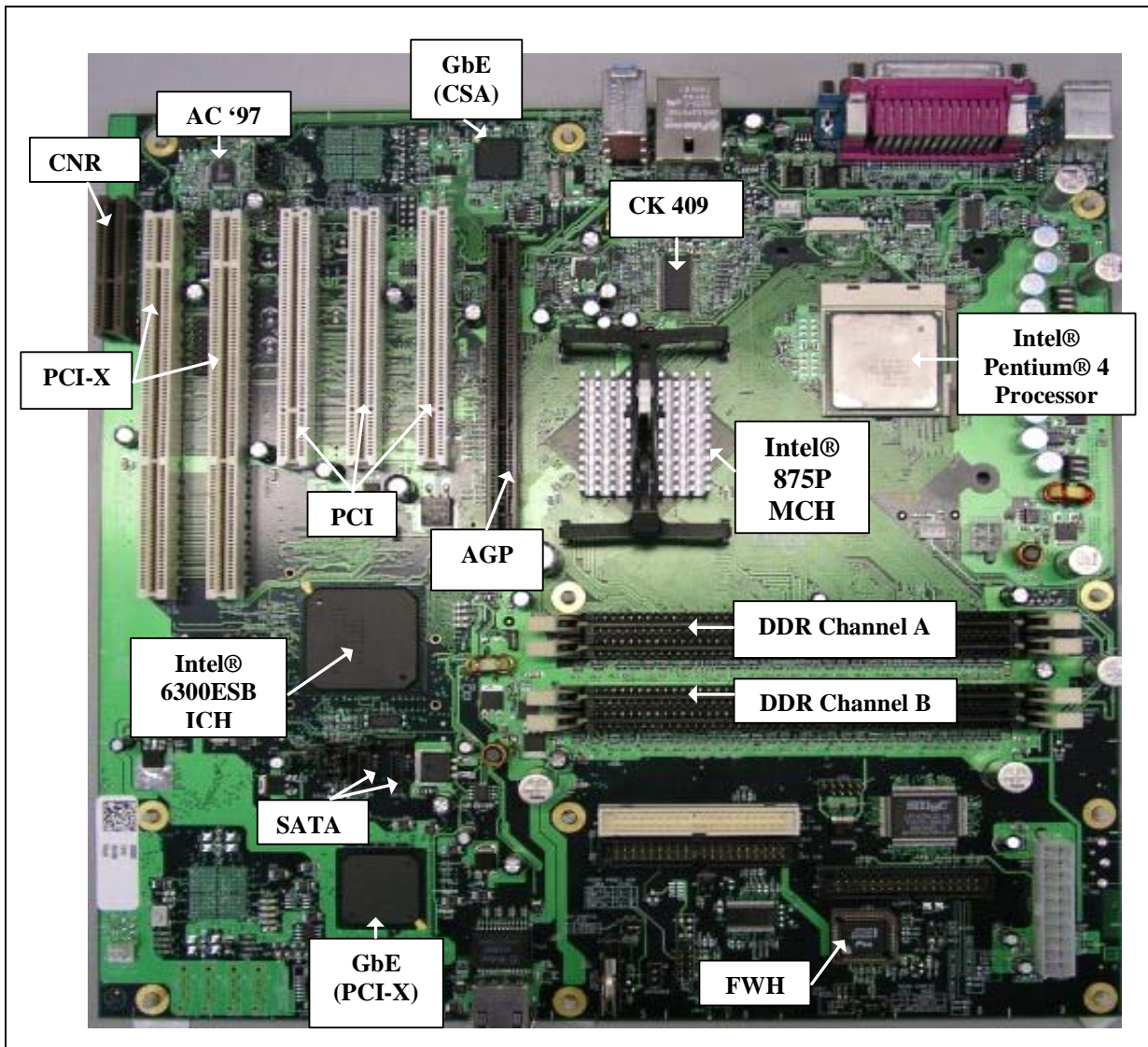
A type 2032 3 V lithium coin cell battery is required and included in the evaluation board kit.

Hardware Reference

4

This section provides reference information on the hardware, including locations of evaluation board components, connector pinout information, and jumper settings. Figure 6 shows the board layout diagram.

Figure 6. Board Layout Diagram



4.1 Chipset Components

Table 4 presents the chipset and other major components on the evaluation board.

Table 4. Chipset Components

Component Designator	Component Description
U5D1	Intel® 875P MCH
U3F1	Intel® 6300ESB ICH
U4A1	Intel® 82547GI GbE Controller from CSA
U3J1	Intel® 82544EI GbE Controller from PCI-X
U7K1	Intel® 82802AB Firmware Hub (FWH)

4.2 Expansion Slots and Sockets

Table 4 presents the expansion slots and sockets on the evaluation board.

Table 5. Expansion Slots and Socket

Slot/Socket Reference Designator	Slot/Socket Description
J4B1	PCI Slot 1
J3B2	PCI Slot 2
J2B3	PCI Slot 3
J2B2	PCI-X Slot 1
J1B2	PCI-X Slot 2
J8C1	Processor Socket
U7K1	Firmware Hub (FWH) BIOS Socket
XBT5K1	Battery
J1B1	Communications and Network Riser

4.2.1 32-Bit PCI Connector

Table 5 presents the signals assigned to the 32-bit PCI slot connectors found at jumpers J4B1, J3B2, and J2B3.

Table 6. 32-bit 5 V PCI Connector Pinout

Pin	Signal	Pin	Signal
A1	TRST#	B1	-12V
A2	+12V	B2	TCK
A3	TMS	B3	GND
A4	TDI	B4	TDO
A5	5V	B5	5V

Table 6. 32-bit 5 V PCI Connector Pinout

Pin	Signal	Pin	Signal
A6	INTA#	B6	5V
A7	INTC#	B7	INTB#
A8	5V	B8	INTD#
A9	CLKRUN	B9	PRSNT1#
A10	5V	B10	Reserved
A11	Reserved	B11	PRSNT2#
A12	GND	B12	GND
A13	GND	B13	GND
A14	3.3V _{aux}	B14	Reserved
A15	RST#	B15	GND
A16	5V	B16	CLK
A17	GNT#	B17	GND
A18	GND	B18	REQ#
A19	PME#	B19	5V
A20	AD30	B20	AD31
A21	3.3V	B21	AD29
A22	AD28	B22	GND
A23	AD26	B23	AD27
A24	GND	B24	AD25
A25	AD24	B25	3.3V
A26	IDSEL	B26	C/BE3#
A27	3.3V	B27	AD23
A28	AD22	B28	GND
A29	AD20	B29	AD21
A30	GND	B30	AD19
A31	AD18	B31	3.3V
A32	AD16	B32	AD17
A33	3.3V	B33	C/BE2#
A34	FRAME#	B34	GND
A35	GND	B35	IRDY#
A36	TRDY#	B36	3.3V
A37	GND	B37	DEVSEL#
A38	STOP#	B38	GND
A39	3.3V	B39	LOCK#
A40	SDONE	B40	PERR#
A41	SBO#	B41	3.3V
A42	GND	B42	SERR#
A43	PAR	B43	3.3V

Table 6. 32-bit 5 V PCI Connector Pinout

Pin	Signal	Pin	Signal
A44	AD15	B44	C/BE1#
A45	3.3V	B45	AD14
A46	AD13	B46	GND
A47	AD11	B47	AD12
A48	GND	B48	AD10
A49	AD9	B49	GND
A50	KEY	B50	KEY
A51	KEY	B51	KEY
A52	CBEO#	B52	AD8
A53	3.3V	B53	AD7
A54	AD6	B54	3.3V
A55	AD4	B55	AD5
A56	GND	B56	AD3
A57	AD2	B57	GND
A58	AD0	B58	AD1
A59	5V	B59	5V
A60	REQ64#	B60	ACK64#
A61	5V	B61	5V
A62	5V	B62	5V

4.2.2 64-Bit PCI-X Connector

Table 7 presents the 64-bit 3.3 V PCI-X connector pinout for J1B2 and J2B2.

Table 7. 64-bit 3.3 V PCI-X Connector Pinout (Sheet 1 of 3)

Pin	Signal	Pin	Signal
A1	TRST#	B1	-12V
A2	+12V	B2	TCK
A3	TMS	B3	GND
A4	TDI	B4	TDO
A5	5V	B5	5V
A6	INTA#	B6	5V
A7	INTC#	B7	INTB#
A8	5V	B8	INTD#
A9	Reserved	B9	PRSNT1#
A10	3.3V	B10	Reserved
A11	Reserved	B11	PRSNT2#
A12	KEY	B12	KEY

Table 7. 64-bit 3.3 V PCI-X Connector Pinout (Sheet 2 of 3)

Pin	Signal	Pin	Signal
A13	KEY	B13	KEY
A14	3.3V _{aux}	B14	Reserved
A15	RST#	B15	GND KEY KEY
A16	3.3V	B16	CLK KEY KEY
A17	GNT#	B17	GND
A18	GND	B18	REQ#
A19	PME#	B19	3.3V
A20	AD30	B20	AD31
A21	3.3V	B21	AD29
A22	AD28	B22	GND
A23	AD26	B23	AD27
A24	GND	B24	AD25
A25	AD24	B25	3.3V
A26	IDSEL	B26	C/BE3#
A27	3.3V	B27	AD23
A28	AD22	B28	GND
A29	AD20	B29	AD21
A30	GND	B30	AD19
A31	AD18	B31	3.3V
A32	AD16	B32	AD17
A33	3.3V	B33	C/BE2#
A34	FRAME#	B34	GND
A49	AD9	B49	M66EN
A50	GND	B50	GND
A51	GND	B51	GND
A52	CBEO#	B52	AD8
A53	3.3V	B53	AD7
A54	AD6	B54	3.3V
A55	AD4	B55	AD5
A56	GND	B56	AD3
A57	AD2	B57	GND
A58	AD0	B58	AD1
A59	3.3V	B59	3.3V
A60	REQ64#	B60	ACK64#
A61	5V	B61	5V
A62	5V	B62	5V
A63	GND	B63	Reserved
A64	C/BE7#	B64	GND

Table 7. 64-bit 3.3 V PCI-X Connector Pinout (Sheet 3 of 3)

Pin	Signal	Pin	Signal
A65	C/BE5#	B65	C/BE6#
A66	3.3V	B66	C/BE4#
A67	PAR64	B67	GND
A68	AD62	B68	AD63
A69	GND	B69	AD61
A70	AD60	B70	3.3V
A71	AD58	B71	AD59
A72	GND	B72	AD57
A73	AD56	B73	GND
A74	AD54	B74	AD55
A75	3.3V	B75	AD53
A76	AD52	B76	GND
A77	AD50	B77	AD51
A78	GND	B78	AD49
A79	AD48	B79	3.3V
A80	AD46	B80	AD47

4.2.3 AGP Connector

Table 8 presents the AGP Slot connector pinout for jumper J4B2.

Table 8. AGP Slot connector Pinout (Sheet 1 of 2)

Pin	B	A	Pin	B	A	Pin	B	A
1	OVRCNT#	12V	23	GND	GND	45	KEY	KEY
2	5.0V	TYPEDET#	24	3.3V AUX	Reserved	46	DEVSEL	TRDY
3	5.0V	GC_DET#	25	VCC3.3	VCC3.3	47	Vddq1.5	STOP
4	USB+	USB-	26	AD31	AD30	48	PERR	PME#
5	GND	GND	27	AD29	AD28	49	GND	GND
6	INTB#	INTA#	28	VCC3.3	VCC3.3	50	SERR	PAR
7	CLK	RST#	29	AD27	AD26	51	C#/BE1	AD15
8	REQ	GNT	30	AD25	AD24	52	Vddq1.5	Vddq1.5
9	VCC3.3	VCC3.3	31	GND	GND	53	AD14	AD13
10	ST0	ST1	32	AD_STBF1	AD_STBS1	54	AD12	AD11
11	ST2	MB_DET#	33	AD23	C#/BE3	55	GND	GND
12	RBF	DBI_HI	34	Vddq1.5	Vddq1.5	56	AD10	AD9
13	GND	GND	35	AD21	AD22	57	AD8	C#/BE0
14	DBI_LO	WBF	36	AD19	AD20	58	Vddq1.5	Vddq1.5
15	SBA0#	SBA1#	37	GND	GND	59	AD_STBF0	AD_STBS0

Table 8. AGP Slot connector Pinout (Sheet 2 of 2)

Pin	B	A	Pin	B	A	Pin	B	A
16	VCC3.3	VCC3.3	38	AD17	AD18	60	AD7	AD6
17	SBA2#	SBA3#	39	C#/BE2	AD16	61	GND	GND
18	SB_STBF	SB_STBS	40	Vddq1.5	Vddq1.5	62	AD5	AD4
19	GND	GND	41	IRDY	FRAME	63	AD3	AD2
20	SBA4#	SBA5#	42	KEY	KEY	64	Vddq1.5	Vddq1.5
21	SBA6#	SBA7#	43	KEY	KEY	65	AD1	AD0
22	Reserved	Reserved	44	KEY	KEY	66	AGPVrefcg	AGPVrefgc

4.2.4 Processor Socket

There is 478-pin processor socket on the evaluation board. The processor is keyed so that it fits into the socket in one particular orientation. The socket is released by lifting the cam lever.

Note: Do not force the processor into the socket, or you may damage the processor and/or socket.

The evaluation board is designed to support future processor speeds.

4.2.5 Firmware Hub (FWH) BIOS Socket

The system boot ROM is installed on the Intel® 82802AB FWH device. The FWH is addressable on the LPC bus off the Intel® 6300ESB ICH.

The Firmware Hub (FWH), or BIOS, flash memory fits into the 32-pin socket U7K1, giving you the option to remove and reprogram it without the use of soldering equipment. This is the recommended way to program the FWH. There is only one correct orientation for the FWH part to be placed into its socket. Line up the circular marking on the FWH part, denoting pin one, with the circular marking on the evaluation board. Pin numbering proceeds clockwise around the chip from pin one.

4.2.6 Battery

A type 2032 3 V lithium coin cell battery is used in socket XBT5K1 on the evaluation board. The battery is held in place by a metal arm. To remove the battery, gently push the metal arm and remove the battery.

4.3 On-Board Connectors

Figure 7 shows the locations of on-board connectors.

Figure 7. Locations of the On-Board Connectors

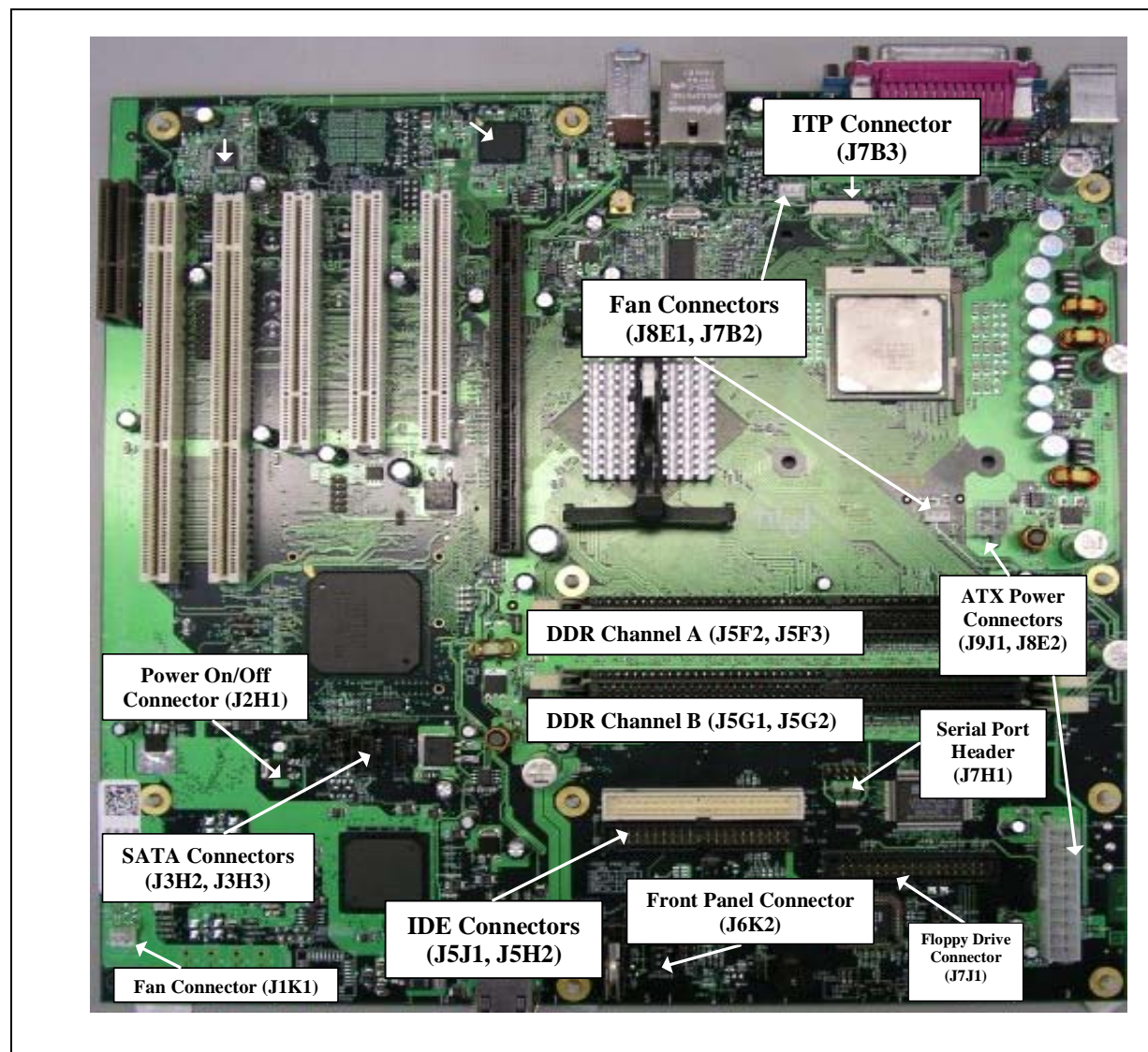


Table 9. On-Board Connectors

Connector Reference Designator	Connector Description
J9J1	ATX Main Power Connector
J8E2	Additional Power Connector
J5f2, J5F3	DDR Channel A Connectors
J5G1, J5G2	DDR Channel B Connectors
J5J1, J5H2	IDE Connectors
J7J1	Floppy Connector
J7B3	ITP Connector
J6K1, J6K2	Front Panel Connector
J8E1, J7B2, J1K1	Fan Connector
J3H2, J3H3	SATA Connector
J7H1	Serial Port Header

4.3.1 ATX Power Connectors

The evaluation board contains two ATX power connectors. These connectors are located at J9J1 and J8E2.

4.3.2 Power On/Off

The evaluation board contains a power on/off jumper located at J2H1. It is designed for use with a momentary switch. The jumper provides basic debounce circuitry onboard.

4.3.3 SATA Connectors

Pin	Connector Description
1	GND
2	A+
3	A-
4	GND
5	B-
6	B+
7	GND

4.3.4 Serial Port Connectors

Pin	Connector Description
1	DCD1
2	RXD1
3	TXD1
4	DTR
5	GND
6	DSR1
7	RTS1
8	CTS
9	RI

4.3.5 IDE Connector

The evaluation board has a 40-pin connector for the two IDE controllers present in the Intel® 6300ESB ICH. Each connector will support one master and one slave IDE device. The primary and secondary connectors are located at J5J1 and J5H2, respectively. [Figure 10](#) presents the signals assigned to the IDE connector.

Table 10. IDE Connector Pinout (Sheet 1 of 2)

Pin	Connector Description	Pin	Connector Description
1	Reset IDE	21	DRQ3
2	GND	22	GND
3	Host Data	23	I/O Write#
4	Host Data	24	GND
5	Host Data	25	I/O Read#
6	Host Data	26	GND
7	Host Data	27	I/O CHRDY
8	Host Data	28	GND
9	Host Data	29	DACK3#
10	Host Data	30	GND
11	Host Data	31	IRQ14
12	Host Data	32	Reserved
13	Host Data	33	Addr1
14	Host Data	34	Primary IDE Cable Detect
15	Host Data	35	Addr0
16	Host Data	36	Addr2
17	Host Data	37	Chip Select 0#

Table 10. IDE Connector Pinout (Sheet 2 of 2)

Pin	Connector Description	Pin	Connector Description
18	Host Data	38	Chip Select 1#
19	Reserved	39	Activity
20	Key	40	GND

4.3.6 Floppy Drive Connector

The evaluation board provides one 34-pin floppy connector is provided, which will support up to two floppy drives. The floppy drive connector is located at J7J1.

Table 11. Floppy Drive Connector Pinout

Pin	Signal	Pin	Signal
1	GND	18	DIR#
2	Drive Enable 0	19	GND
3	GND	20	STEP#
4	Reserved	21	GND
5	Key	22	Write Data#
6	Drive Enable 1	23	GND
7	GND	24	Write Gate#
8	Index	25	GND
9	GND	26	Track 00#
10	Motor Enable A#	27	GND
11	GND	28	Write Protect#
12	Reserved	29	GND
13	GND	30	Read Data#
14	Drive Select A#	31	GND
15	GND	32	Side 1 Select#
16	Reserved	33	GND
17	GND	34	Diskette Change#

4.3.7 ITPFlex Connector

See [Section 3.3.5](#) and ITP documentation for information on the In-Target Probe (ITP). See *ITP700 Debug Port Design Guide* (<http://www.intel.com/design/Xeon/guides/249679.htm>).

4.3.8 Front Panel Connector

The development kit is not shipped with a chassis, so the front panel connector is unused by default. However, if you want to place your evaluation board in a chassis, refer to [Table 12](#) for the pinout of the front panel connector J6K2.

Table 12. Front Panel Connector

Pin	Connector Description	Pin	Connector Description
1	HD_LED	2	FP_PWR/SLP
3	HD_LED_N	4	FP_PWR/SLP
5	GND	6	PWR_SW_P
7	RST_SW_P	8	GND
9	+5V	10	No Pin

4.3.9 Fan Connectors

There are three 12 V fan connectors on the evaluation board. Use connector J8E1 for the CPU fansink. If you install another 12 V fan or fansink on your evaluation board, you may use the auxiliary fan connectors J7B2 or J1K1.

4.4 DDR SDRAM Slots

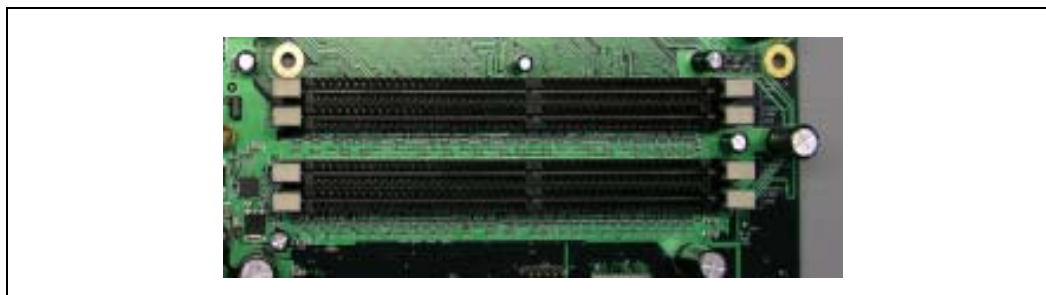
The evaluation board contains four DIMM slots for DDR SDRAM. [Table 13](#) presents the DDR SDRAM slot designator and corresponding description. [Figure 8](#) shows the four DDR SDRAM slots.

Table 13. DDR SDRAM Slots

Designator	DDR SDRAM	Slot Description
J5F3	DIMM 1	Channel A
J5F2	DIMM 0	Channel A
J5G2	DIMM 1	Channel B
J5G1	DIMM 0	Channel B

The four DIMM slots are arranged in two channels. The DIMM pair pictured at the top of [Figure 8](#) is channel A and the bottom pair is channel B.

Note: This platform will only support a maximum of 4 GBytes.

Figure 8. DDR SDRAM slots

DIMMs may range in size from 128 Mbytes up to 1 Gbyte. All DIMMs must be unbuffered memory. Different DIMM configurations will result in different performance modes. See the Intel® 875P MCH Chipset Memory Configuration Guide reference in [Table 1](#) for more information.

Table 14. FSB and DDR speeds

FSB Speed	Host Clock	DRAM Clock	Ratios	DRAM Data Rate	DRAM Type	Peak Bandwidth
400 MT/s	100 MHz	133 MHz	3/4	266 MT/s	DDR-DRAM	2.1 GB/s
533 MT/s	133 MHz	133 MHz	1/1	266 MT/s	DDR-DRAM	2.1 GB/s
800 MT/s	200 MHz	133 MHz	3/2	266 MT/s	DDR-DRAM	2.1 GB/s
533 MT/s	133 MHz	166 MHz	4/5	333 MT/s	DDR-DRAM	2.7 GB/s
800 MT/s	200 MHz	166 MHz	5/4	320 MT/s	DDR-DRAM	2.6 GB/s
800 MT/s	200 MHz	200 MHz	1/1	400 MT/s	DDR-DRAM	3.2 GB/s

This evaluation board supports CPU FSB speeds of 800, 533, and 400 MT/s. [Table 14](#) explains which DDR speeds are supported with each CPU FSB speed. Note that because of the ratio, CPU FSB speed of 800 MT/s, DDR 333 will operate at 320 MT/s. Also, because of the ratio, CPU FSB speed 400 MT/s will operate only at DDR 266 MT/s.

4.5 Jumpers

The evaluation board has a number of jumpers that control various functions of the system.

[Table 15](#) presents the descriptions of the jumpers and their settings. [Figure 9](#) and [Figure 10](#) illustrate the location of each jumper on the board. Default settings are recognized in bold.

Table 15. Jumpers and Jumper Functions (Sheet 1 of 2)

Jumper	Name	Function / Comments
J2G1	RASERR -> GPI12	Open: Isolates RASERR from GPI12 on Intel® 6300ESB I/O Controller Hub Short: Ties RASERR to GPI12
J2G4	WDT -> SYS_RST	Open: Will not result in System Reset upon WDT expiration Short: Will result in System Reset upon WDT expiration
J2G3	WDT -> LED	Open: Will not light an LED upon WDT expiration Short: Will light an LED upon WDT expiration
J3E1	FWH Top Swap	Open: Disable Top Swap mode in FWH Short: Enable Top Swap
J8K1	Top Block Lock	Open: Disable Top Block Lock mode in FWH Short: Enable Top Block Lock

Table 15. Jumpers and Jumper Functions (Sheet 2 of 2)

Jumper	Name	Function / Comments		
J2F2	M66EN	For debug purposes only.		
			M66EN (J2F2)	PCIXCAP (J2F1)
J2F1	PCIXCAP	PCI 33	Short	Short
		PCI 66	Not Supported on this platform, but is supported by Intel® 6300ESB ICH.	
		PCI-X 66	Short	Short
J6K3	Recovery After Power Loss	Open: Normal (BIOS controlled Operation) Short: No Reboot		
J5J2	CMOS Config	[1-2]: Normal Operation [2-3]: Clear CMOS		
J7K1	BIOS Config	[1-2]: Normal Mode [2-3]: Configuration Mode [Open]: Recovery Mode		

Figure 9. Jumper Locations

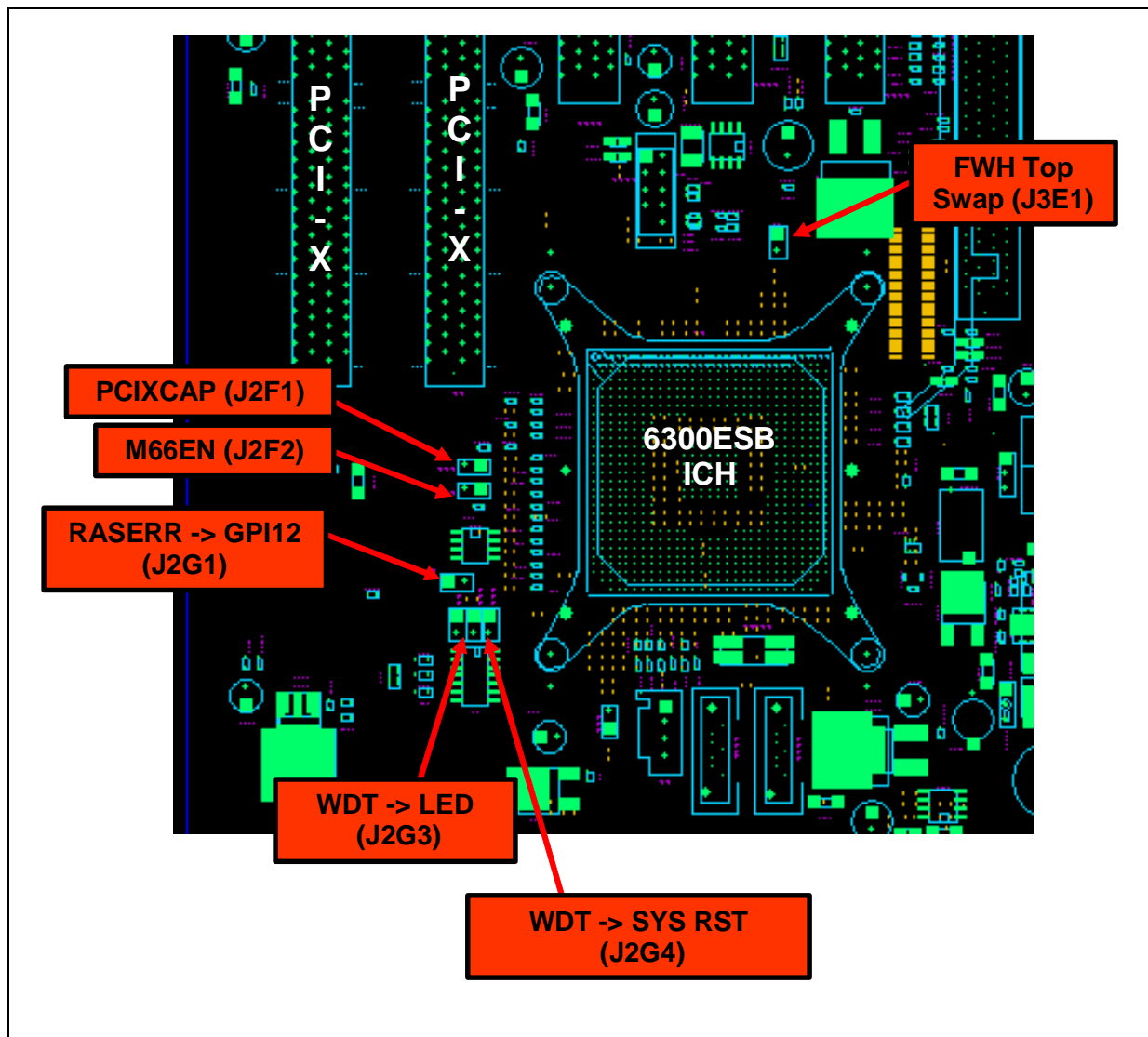
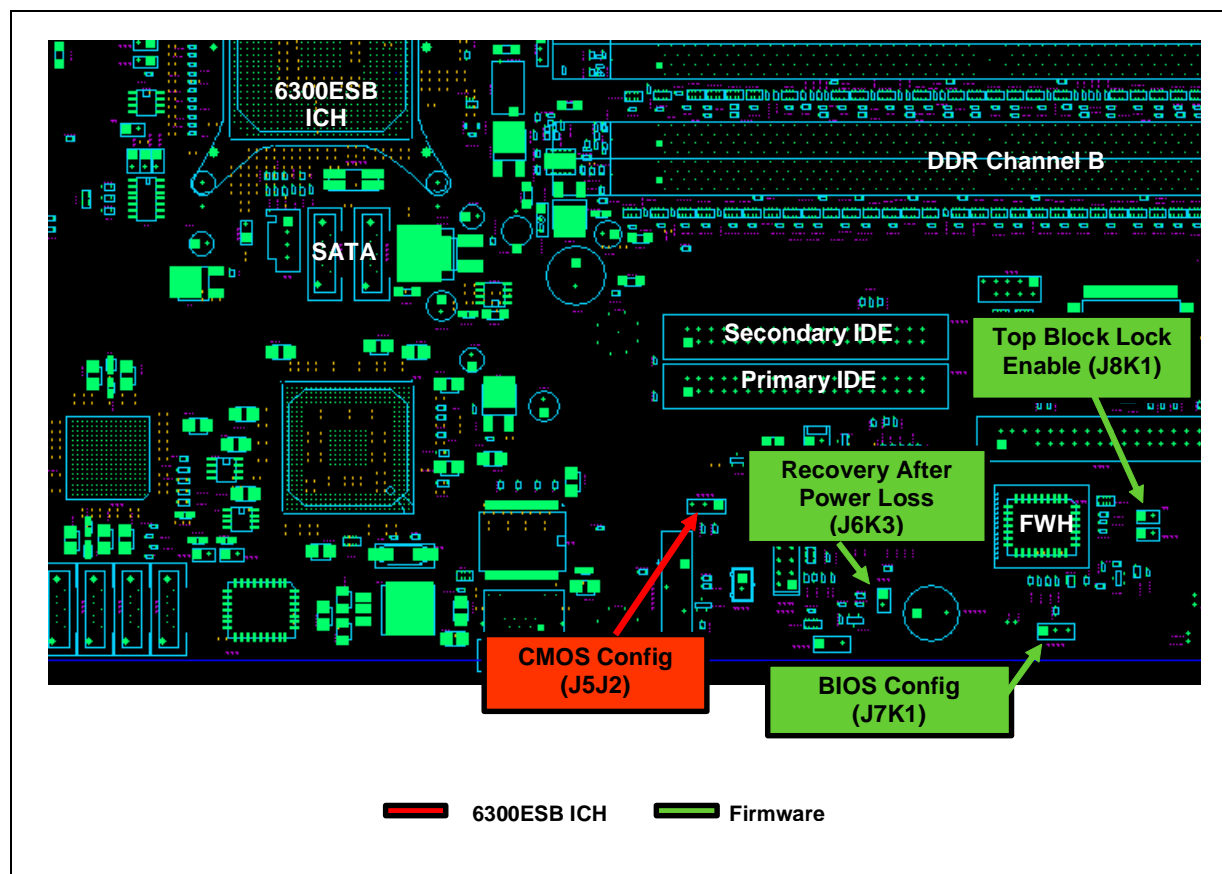


Figure 10. Jumper Locations Continued



4.5.1 SMBUS Headers

The SMBUS headers are used to connect the SMBUS. Table 16 presents the SMBUS 3.3 V STBY pinout description.

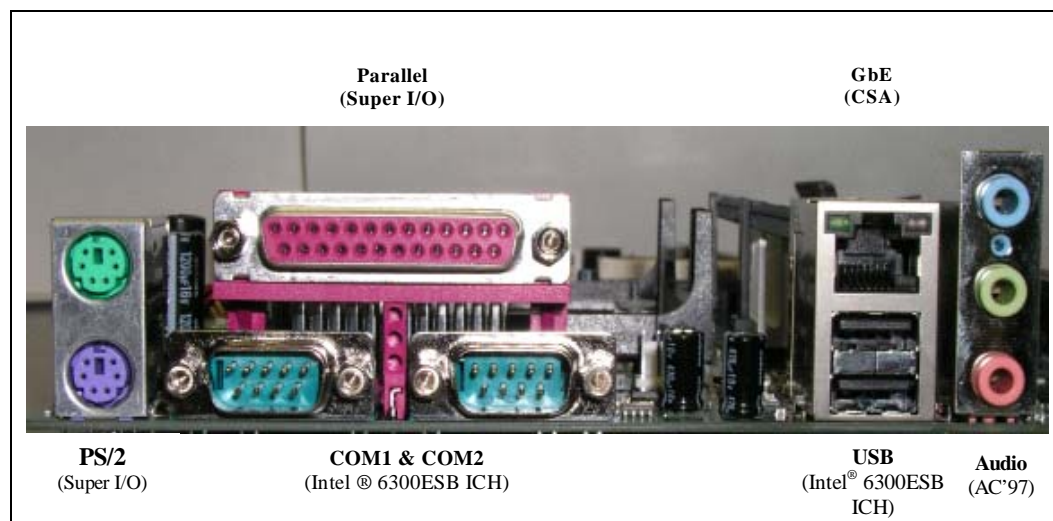
Table 16. SMBUS 3.3 V STBY Pinout Description

Pin 1	3.3V STBY
Pin 2	SMB Data
Pin 3	SMB CLK
Pin 4	GND

4.6 Back Panel Connectors

The evaluation board contains a number of connectors for external system devices and peripherals. Figure 11 shows the peripheral connectors.

Figure 11. Back Panel Connectors



4.6.1 Dual Stacked USB Connector

Table 17 presents the signals assigned to the dual stacked USB connector.

Table 17. USB Connector Pinout

Pin	Connector Description
1,5	Power (fused)
2,6	USBP0# [USBP1#]
3,7	USBP0 [USBP1]
4,8	Ground

4.6.2 PS/2-Style Mouse and Keyboard Connectors

Table 18 presents the signals assigned to the PS/2-style keyboard and mouse connectors. The mouse port is the green connector on the top and the keyboard port is the purple connector on the bottom.

Table 18. PS/2-Style Mouse and Keyboard Pinout (Sheet 1 of 2)

Pin	Connector Description
1,7	Data
2,8	Reserved
3,9	Ground

Table 18. PS/2-Style Mouse and Keyboard Pinout (Sheet 2 of 2)

Pin	Connector Description
4, 10	+5 V (fused)
5, 11	Clock
6, 12	Reserved

4.6.3 Parallel Port

Table 19 presents the signals assigned to the parallel port connector.

Table 19. Parallel Port Connector Pinout

Pin	Connector Description	Pin	Connector Description
1	Strobe#	14	Auto Feed#
2	Data Bit 0	15	Fault#
3	Data Bit 1	16	INIT#
4	Data Bit 2	17	SLC IN#
5	Data Bit 3	18	Ground
6	Data Bit 4	19	Ground
7	Data Bit 5	20	Ground
8	Data Bit 6	21	Ground
9	Data Bit 7	22	Ground
10	ACK#	23	Ground
11	Busy	24	Ground
12	Paper end	25	Ground
13	SLCT		

4.6.4 Serial Ports

Table 20 presents the signals assigned to the serial port connector.

Table 20. Serial Port Connector Pinout (Sheet 1 of 2)

Pin	Connector Description
1	DCD
2	Serial In (SIN)
3	Serial Out (SOUT)
4	DTR
5	Ground
6	DST

Table 20. Serial Port Connector Pinout (Sheet 2 of 2)

Pin	Connector Description
7	RTS
8	CTS
9	RI

4.6.5 Gigabit Ethernet RJ-45 Connector

Table 21 presents the signals assigned to the gigabit Ethernet RJ-45 connector. A Cat5 cable with a RJ-45 connector is required to connect this Ethernet adapter to your network.

Table 21. Gigabit Ethernet RJ-45 Connector Pinout

Pin	Signal
1	Data 0 +
2	Data 0 -
3	Data 1+
4	Data 1 -
5	Data 2 +
6	Data 2 -
7	Data 3 +
8	Data 3 -

Bill of Materials

A

This appendix includes the bill of materials at the time of this printing. To obtain the latest version of the bill of materials, contact your local Intel representative. [Table 22](#) presents the Bill of Materials.

Table 22. Bill of Materials (Sheet 1 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
16	C7V3,C7W1,C7W2,C7W3,C7W4,C7W5,C7W7,C7W8,C7W9,C7W10,C7W12,C7W15,C7W18,C7W21,C7W28,C8W17	CAPC,X7R,0603,1000.000 PF,50.000V,+/- 1>	AVX	06035C102KAT2A
17	C3L1,C5A10,C5A13,C5A14,C6A2,C6A3,C6A4,C9A1,C9A2,C9A3,C9A5,C9A6,C9A7,C9A8,C9K1,C9K2,C9K5	CAPC,X7R,0603,470.000 PF,50.000V,+/- 10>	TDK	C1608X7R1H471KT
8	C2A10,C2A19,C2A20,C2B4,C2B5,C6D7,C8B10,C9A4	CAPC,X5R,0603,1.000 UF,6.300V,+/- 20%	TDK CORPORATION OF AMERICA	C1608X5R0J105KT
9	C3E3,C4C3,C4F4,C5C5,C5H7,C6A1,C7A1,C9F4,C9G2	CAPA,470.000 UF,6X11,10.000V,+/- 20%,TH>	NICHICON	UVR1A471MEA1TD
7	C4H4,C5G18,C8A17,C9B3,C9D9,C9E3,C1A6	CAPC,Y5V,0805,1.000 UF,16.000V,+80/- 20%>	TAIYO YUDEN	EMK212F105ZG-T
0	C1B4,C1C1,C1K2,C2B10,C3B1,C3B7,C3B8,C4B8,C6B2,C6C2,C8E1,C8K2,C9M2,C9M5	CAPC,Y5V,0603,0.100 UF,25.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C1608Y5V1E104ZT009N
10	C9B7,C9B8,C9B11,C9C1,C9C2,C9C3,C9D1,C9D4,C9D8,C9D10	CAPA,680.000 UF,8X13,2.500V,+/- 20%,TH	UNITED/NIPPON CHEMICON	PSA2.5VB680MH11
1	C6B1	CAPC,X7R,0603,0.047 UF,16.000V,+/- 10%	TDK CORPORATION OF AMERICA	C1608X7R1C473KT
27	C1A5,C1A11,C2A2,C2A9,C2A15,C2A16,C2A17,C2A18,C2A23,C1G2,C2H2,C4G2,C4G4,C4G5,C5B8,C5B20,C6C7,C6V2,C6V4,C6V6,C6W3,C7U19,C7U22,C8B8,C8U1,C8U4,C9K3	CAPC,Y5V,0603,1.000 UF,10.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C1608Y5V1A105ZT

Table 22. Bill of Materials (Sheet 2 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
230	C1B2,C1D1,C1G3,C1H1, C1L1,C2B7,C2B9,C2D1, C2V1,C2V3,C2V4,C3B2,C3B4, C3B5,C3B6,C3D1,C3D3,C3L2, C3L3,C3L4,C3L5,C3L6,C3L7,C 3V1,C3V2,C3V3,C3W1,C3W2, C4A8,C4A9,C4A11,C4A16,C4A 17,C4A19,C4A22,C4A23,C4A2 4,C4A25,C4A27,C4B5,C4B7,C4 C1,C4C4,C4C5,C4C6,C4D1,C4 D2,C4D3,C4D4,C4D5,C4D10,C 4D11,C4D13,C4D14,C4D15,C4 E3,C4Y2,C5A9,C5B6,C5B10,C 5B17,C5B21,C5C6,C5C13,C5C 15,C5C16,C5C17,C5D1,C5D2, C5E1,C5E3,C5E6,C5F1,C5G2, C5G3,C5G4,	CAPC,Y5V,0603,0.100 UF,25.000V,+80/- 20%>	TDK	C1608Y5V1E104 ZT
230	C5G5,C5G6,C5G7,C5G8,C5G9 ,C5G10,C5G14,C5G15,C5G16, C5G17,C5H1,C5H2,C5H3,C5H 4,C5H5,C5H6,C5K3,C6B9,C6B 10,C6B11,C6C1,C6D6,C6F1,C6 G1,C6G2,C6G3,C6G4,C6G5,C 6G6,C6G7,C6G8,C6G9,C6G10, C6G11,C6G12,C6G13,C6G14, C6G15,C6H1,C6H2,C6H3,C6H 4,C6H5,C6H6,C6K2,C6T1,C6U 1,C6U2,C6V1,C6W2,C7B1,C7D 5,C7F2,C7G1,C7G2,C7G3,C7G 4,C7G5,C7G6,C7G7,C7G8,C7 G9,C7G10,C7G11,C7G12,C7G 13,C7G14,C7G15,C7H1,C7H2, C7H3,C7H4,C7H5,C7H6,	Ref Des Cont...	Ref Des Cont...	Ref Des Cont...
230	C7K1,C7K2,C7T1,C7T2,C7T3, C7T4,C7T6,C7T7,C7T9,C7T10, C7T11,C7T12,C7T13,C7T15,C7 T16,C7T17,C7T23,C7T24,C7T2 5,C7T26,C7T27,C7T28,C7U1,C 7U2,C7U3,C7U4,C7U5,C7U6,C 7U7,C7U8,C7U9,C7U10,C7U11 ,C7U12,C7U13,C7U14,C7U18, C7U23,C8B1,C8B2,C8B4,C8B1 2,C8F1,C8F2,C8F3,C8F4,C8G1 ,C8G2,C8G3,C8G4,C8G5,C8G 6,C8G7,C8G8,C8G9,C8G10,C8 G11,C8G12,C8G13,C8G14,C8 G15,C8H1,C8H2,C8H3,C8H4,C 8H5,C8H6,C8H7,C8H8,C8K3,C 8M2,C8U2,C8U3,C8V1,C9G4,C 9J1,C9J3,C9K4,C9K7,C9K10	Ref Des Cont...	Ref Des Cont...	Ref Des Cont...

Table 22. Bill of Materials (Sheet 3 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
95	C1A9,C1C3,C1D4,C1G1,C2E2,C2V2,C3E1,C3E2,C3E5,C3M1,C3Y1,C3Y2,C4B6,C4E1,C4E2,C4E4,C4M1,C5B11,C5D5,C5E9,C5F2,C5G1,C5G11,C5G12,C5H9,C5H11,C5M2,C5N2,C5V1,C5V2,C5V3,C6D4,C6R1,C6V3,C6V5,C6W6,C6W7,C7B2,C7P2,C7R1,C7T5,C7T19,C7U15,C7U16,C7U24,C7V1,C7Y10,C8M1,C8R2,C8T1,C8T2,C8T3,C8T4,C8W1,C8W2,C8W4,C8W5,C8W7,C8W8,C8W10,C8W12,C8W14,C8W16,C8W19,C8W20,C8W21,C8W23,C8W24,C8Y6,C9J2,C9M1,C9M3,C9M4,C9U1,C9W2,C9W3,C9W4,C9W5,C9W6,C9W9,C9W10,C9W11,C9W13,C9W14,C9Y1,C9Y3,C9Y8,C5K1,C8W3,C8W9,C8W15,C8Y2,C9W1,C9W8,C9Y6	CAPC,X7R,0603,0.100 UF,16.000V,+/- 10%	TDK CORPORATION OF AMERICA	C1608X7R1C104 KT
0	C1J4,C6H7,C6J1,C8E2	CAPC,X7R,0603,0.047 UF,16.000V,+/- 10%	TDK CORPORATION OF AMERICA	C1608X7R1C473 KT009N
1	C9H2	CAPC,C0G,0603,100.000 PF,50.000V,+/- 5%>	TDK	C1608COG1H101 JT
1	C4H2	CAPA,1500.000 UF,10X25,10.000V,+/- 20%,>	NICHICON CORPORATION	UHD1A152MPR1 TD
18	C3H1,C4A5,C4A26,C4B4,C4D7,C4G7,C4H5,C5A16,C5B15,C5C1,C9B4,C9D6,C9E5,C9H1,C9H3,C9K6,C9K9,C1A14	CAPC,Y5V,1206,4.700 UF,16.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C3216Y5V1C475 ZT
6	C4F5,C4G1,C5H8,C6C6,C9G3,C9G5	CAPC,X5R,1206,4.700 UF,10.000V,+/- 10%	TDK CORPORATION OF AMERICA	C3216X5R1A475 KT
3	C7L4,C7L5,C7L7	CAPC,C0G,0603,47.000 PF,50.000V,+/- 5%	TDK CORPORATION OF AMERICA	C1608COG1H470 JT

Table 22. Bill of Materials (Sheet 4 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
0	C6C8	CAPC,X7R,0603,0.10 0 UF,16.000V,+/- 10%	TDK CORPORATION OF AMERICA	C1608X7R1C104 KT009T
6	C8H9,C9B1,C9B10,C9D2,C9F1 ,C9G1	CAPC,X7R,0603,4700 .000 PF,50.000V,+/- 2>	NICHICON CORPORATION	UHD1C122MPT
3	C9B5,C9D5,C9E1	CAPC,Y5V,0805,0.220 UF,25.000V,+80/- 20%>	MURATA	GRM40Y5V224Z0 25AL
3	C9B9,C9D3,C9E2	CAPC,X7R,0603,4700 .000 PF,50.000V,+/- 2>	TDK CORPORATION OF AMERICA	C1608X7R1H472 MT009N
29	C1D3,C1F1,C2E1,C5H10,C7C5 ,C7C6,C7C7,C7C8,C7C9,C7C1 5,C7D1,C7D2,C7D3,C7D4,C8C 2,C8C3,C8C6,C8C7, C8C9,C8C10,C8C11,C8C12,C8 C13, C8D2,C8D3,C8D5,C8D6,C8D7, C8D8	CAPC,X5R,1206,22.0 00 UF,6.300V,+/- 20%	MURATA ELEC. NORTH AMERICA	GRM31CR60J226 ME20L
0	C7C1,C7C2,C7C3,C7C4,C7C1 0, C7C12,C7C14,C7C16,C8C1,C8 C4, C8C5,C8C8,C8C14,C8D1,C8D 4,C8D9	CAPC,X5R,1206,22.0 00 UF,6.300V,+/- 20%	MURATA ELEC. NORTH AMERICA	GRM31CR60J226 MA
20	C5C20,C7A2,C7A3,C7D6,C8A1 ,C8A2,C8A3,C8A4,C8A5,C8A6, C8A7,C8A8,C8A9,C8A10,C8A1 1,C8A12,C8A13,C8A14,C8A15, C8B9	CAPC,C0G,0603,220. 000 PF,50.000V,+/- 5%>	MURATA ELEC. NORTH AMERICA	GRM39COG221J 050AD
9	C1G4,C2H1,C4H1,C4H6,C5C1 1,C7F1,C8J1,C8K1,C9K8	CAPA,22.000 UF,5X12,25.000V,+/- 20%,RD	NICHICON	UVR1E220MDA1 TD
3	C4A28,C5A7,C5A15	CAPC,X7R,1206,10.0 0 uF,6.300V,+/- 10%	CAL-CHIP	GMC31X7R106K 6R3NT
4	C4A14,C4A21,C4B1,C5G13	CAPC,X7R,0603,1000 .000 PF,50.000V,+/- 2>	AVX	06035C102KAT2 A
2	C4F2,C4F3	CAPC,X5R,0805,2.20 0 UF,6.300V,+/- 10%	TDK	C2012X5R0J225 KT
0	C5A11,C6K4,C6K5,C8R1,C9F2, C9F3	CAPC,X7R,0603,1800 .000 PF,50.000V,+/- 1>	KEMET	C0603C471K5RA C9045
0	C8B5	CAPC,X7R,0603,1800 .000 PF,50.000V,+/- 1>	TDK CORPORATION OF AMERICA	C1608X7R1H182 KT

Table 22. Bill of Materials (Sheet 5 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
0	C6K1,C7C11,C7C13	CAPC,Y5V,0603,1.000 UF,10.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C1608Y5V1A105 ZT009N
7	C5C14,C5D4,C5E10,C6D1,C6 D2,C6D3,C6E3	CAPC,X5R,0603,0.47 0 UF,6.300V,+/- 20%	MURATA	GRM39B474K010 PT
4	C4D16,C5E8,C6C9,C6E4	CAPC,X7R,0603,0.22 0 UF,10.000V,+/- 10%	AVX/KYOCERA	CM105X7R224K1 0AT
3	C4F6,C5E7,C6D5	CAPC,Y5V,0805,2.200 UF,16.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C2012Y5V1C225 ZT0S9N
78	C1A4,C1F2,C1L2,C2G1,C2L1, C3M2,C3M3,C4A1,C4A15,C4D 6,C4D8,C4D9,C4D12,C4F8,C4 J2,C4J3,C4J5,C4J6,C4J9,C4J1 0,C4J11,C4J12,C4M2,C4M3,C5 B1,C5D3,C5E2,C5E4,C5E5,C5 K2,C5M1,C5N1,C6B3,C6B4,C6 E1,C6E2,C6J4,C6K3,C6T2,C6T 3,C6W1,C6W4,C6Y1,C6Y2,C6 Y3,C6Y4,C7A4,C7B3,C7J1,C7 P1,C7T8,C7T14,C7T18,C7T20, C7T21,C7T22,C7V2,C7W11,C7 W13,C7W14,C7W16,C7W17,C 7W19,C7W20,C7W23,C7W30, C7Y1,C7Y2,C7Y3,C7Y4,C7Y5, C7Y6,C7Y7,C7Y8,C7Y9,C8A16 ,C8J2,C8W11	CAPC,X7R,0603,0.01 0 UF,50.000V,+/- 20%	TDK CORPORATION OF AMERICA	C1608X7R1H103 MT
3	C4B2,C6B7,C6B8	CAPC,X5R,1206,10.0 00 UF,6.300V,+/- 20%	TDK	C3216X7R0J106 MT
0	C5B2,C5B5,C5B7,C5B9,C5B12 ,C5B13,C5B14,C5B16,C5B18,C 5B19,C5B22,C5C2,C5C3,C5C4 ,C5C8,C5C9,C6C3,C6C4,C6C5	CAPC,C0G,0603,10.0 00 PF,50.000V,+/- 0.5>	MURATA ELEC. NORTH AMERICA	GRM39C0G100D 050AJ
12	C1A1,C1C2,C1D2,C2B2,C2D2, C3C1,C4C2,C4H3,C4J4,C5B4, C5C10,C5C12	CAPA,100.000 UF,6X12,25.000V,+/- 20%,RD>	NICHICON CORPORATION	UVR1E101MEA1 TD
3	C5B3,C6B5,C8B6	CAPC,C0G,0603,33.0 00 PF,50.000V,+/- 5%	TDK CORPORATION OF AMERICA	C1608COG1H330 JT
1	C8B11	CAPC,X7R,0603,0.03 9 UF,16.000V,+/- 10%	MURATA ELEC. NORTH AMERICA	GRM39X7R393K 025AD

Table 22. Bill of Materials (Sheet 6 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
8	C1B1,C2A22,C2A25,C2B3,C2B6, C5C18,C2A5,C4A4	CAPC,X5R,0805,10.000 UF,6.300V,+/- 20%	MURATA	GRM21BR60J106KE01L
20	C4A3,C4A6,C4A10,C4A13,C4W2, C4Y1,C5C19,C6J2,C6J3,C6W5, C7L2,C7W22,C7W24,C7W25, C7W26,C7W27,C7W29,C8W13, C8W22,C9W7	CAPC,X7R,0603,0.010 UF,50.000V,+/- 10%	TDK	C1608X7R1H103KT
0	C1A8,C5A2	CAPC,Y5V,0603,1.000 UF,10.000V,+80/-20%>	TDK CORPORATION OF AMERICA	C1608Y5V1A105ZT009N
2	C4A7,C5A12	CAPC,X5R,0805,4.700 UF,6.300V,+/- 20%	TDK CORPORATION OF AMERICA	C2012X5R0J475MT
2	C5A1,C5A4	CAPC,X7R,0402,470.000 PF,50.000V,+/- 10>	AVX CERAMICS CORP	04025C471KAT2A
4	C5A3,C5A5,C5A6,C5A8	CAPC,X7R,0402,220.000 PF,50.000V,+/- 10>	AVX	04025C221KAT2A
0	C1B5,C4A2,C5A17	CAPC,X5R,1206,10.000 UF,6.300V,+/- 20%	TDK CORPORATION OF AMERICA	C3216X7R0J106MT0S9N
0	C4F7,C6B6	CAPC,X5R,1206,4.700 UF,10.000V,+/- 10%	TDK CORPORATION OF AMERICA	C3216X5R1A475KT009N
7	C5A18,C6L1,C6L2,C6Y5,C6Y6, C6Y7,C6Y8	CAPC,X7R,0603,1000.000 PF,50.000V,+/- 5>	KEMET	C0603C102J5RAC
1	C4F1	CAPA,3300.000 UF,10X25,6.300V,+/- 20%,T>	NICHICON CORPORATION	UHM0J332MPT1TD
0	C4G3	CAPC,X7R,0603,0.100 UF,16.000V,+/- 10%	TDK CORPORATION OF AMERICA	C1608X7R1C104KT009T
4	C3K1,C3K2,C4A12,C4A18	CAPC,C0G,0603,22.000 PF,50.000V,+/- 5%	TDK CORPORATION OF AMERICA	C1608COG1H220JT

Table 22. Bill of Materials (Sheet 7 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
20	C1K1,C1K4,C1K5,C1K6,C2K1,C2K4,C2K5,C2K6,C4A20,C4B3,C7W6,C8W25,C8Y1,C8Y3,C8Y4,C8Y5,C9Y2,C9Y4,C9Y5,C9Y7	CAPC,X7R,0603,0.010 UF,50.000V,+/- 5%	MURATA ELEC. NORTH AMERICA	GRM39X7R103J050AJ
3	C2A3,C3A3,C5C7	CAPC,X5R,0805,1.000 UF,16.000V,+/- 10%	TDK	C2012X7R1C105KT
2	C4G6,C8W6	CAPC,X7R,0603,0.015 UF,50.000V,+/- 10%	KEMET	C0603C153K5RAC
0	C8C7,C8D1,C8D1A,C8E1,C8E1A,C8E1B	CAPA,22.000 UF,5X12,25.000V,+/- 20%,RD	NICHICON CORPORATION	UVR1E220MDA1TD
0	C8D2,C8D2A	CAPA,100.000 UF,6X12,25.000V,+/- 20%,RD>	UNITED/NIPPON CHEMICON	SMG25VB101M6X11LL
1	C3E4	CAPA,470.000 UF,8X11,16.000V,+/- 20%,TH>	NICHICON CORPORATION	UBR1C471MPA1AK
2	C7U20,C7U21	CAPC,C0G,0603,10.000 PF,50.000V,+/- 0.5>	MURATA	GRM39COG100D050AJ
8	C1A7,C1A10,C1A13,C2A1,C2A11,C2A14,C2A24,C2A26	CAPC,Y5V,0402,0.100 UF,16.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C1005Y5V1C104ZT
1	C2A12	CAPC,X7R,0402,270.000 PF,50.000V,+/- 10>	MURATA	GRM36X7R271K050AQ
2	C2A6,C2A13	CAPC,X7R,0402,820.000 PF,50.000V,+/- 10>	MURATA	GRM36X7R821K050AQ
0	C1A2	CAPC,Y5V,0402,0.100 UF,16.000V,+80/- 20%>	TDK CORPORATION OF AMERICA	C1005Y5V1C104ZT009N
0	C1A3	CAPC,X5R,0402,0.100 UF,10.000V,+/- 10%	TDK CORPORATION OF AMERICA	C1005X5R1A104KT009N
2	C2A4,C3A2	CAPC,X5R,1210,22.000 UF,6.300V,+/- 20%	TDK CORPORATION OF AMERICA	C3225X5R0J226MT
1	C2A7	CAPC,X5R,0402,0.100 UF,10.000V,+/- 10%	MURATA	GRM36X5R104K010AQ

Table 22. Bill of Materials (Sheet 8 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	C2A8	CAPC,X5R,0805,1.00 0 UF,10.000V,+/- 10%	TDK CORPORATION OF AMERICA	C2012X5R1A105 KT
0	C1A15	CAPC,C0G,0402,5.60 0 PF,50.000V,+/- 0.5P>	AVX CERAMICS CORP	04025A5R6DAT4 A
0	C2B1	CAPC,C0G,0402,10.0 00 PF,50.000V,+/- 0.5>	AVX CERAMICS CORP	04025A100DAT4 A
0	C6J5	CAPC,C0G,0805,10.0 00 PF,50.000V,+/- 5%	MURATA ELEC. NORTH AMERICA	GRM40C0G100D 050AJ
6	CP7A1,CP7A2,CP7A3,CP7A4, CP7H1,CP7H2	CAPC,X7R,1206,470. 000 PF,50.000V,+/- 20>	KEMET	C1632C471M5RA C9045
0	CP6K1,CP6K2	CAPC,X7R,1206,470. 000 PF,50.000V,+/- 20>	KEMET	C1632C471M5RA C9045
3	CR9B1,CR9D1,CR9E1	IC,DS,DIO,SOT-23,GP	PHILLIPS INDS.	PMBD914
1	CR4J2	LED,SM,AMBER,V,1,R C,1	STANLEY ELECTRIC SALES OF AMERICA	AA1112H-TR
6	CR4F1,CR4F2,CR4F3,CR4F4, CR4J1,CR8K1	LED,SM,GRN,V,1,RC, 1	STANLEY ELECTRIC SALES OF AMERICA	PG1112H-TR
1	CR5K1	IC,DS,DIO,SOT- 23,SHTKY	PHILIPS	BAT54C
0	CRP9A1	TVS ARRAY 4 ELEMENT 6.2V 	PHILIPS COMPONENTS	BZA462A
0	FB7C1,FB7C2	FERRITE BEAD 600 OHM 	TDK CORPORATION OF AMERICA	MMZ1608Y601BT A1N
2	FB5B1,FB6B1	FER- BEAD,1206,300.0 OHM,250.0 MA,± 25% >	KOA SPEER ELECTRONICS	MCB1206FTED30 1P
0	HS5C1	ASSY,HTSNK,FC- BGA2,T710,.6MM DIA	FOXCONN ELECTRONICS, INC.	PHC103C03022

Table 22. Bill of Materials (Sheet 9 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
2	J7A1,J9A2	CONN,I/ O,9P,DSUB,RA,,109,0 62ST	FOXCONN ELECTRONICS, INC.	DT10121-PR9
1	J9A1	CONN,I/ O,12P,DIN,RA,0.1,093 ST	FOXCONN ELECTRONICS, INC.	MH11061-PD5
1	J1C1	CONN,HDR,2 X 8,PLG,VT,0.1,062ST,K P PG >	FOXCONN	HC1908G
3	J1K1,J7B2,J8E1	CONN,HDR,1 X 3,PLG,VT,0.1,093ST,K P 1,SH>	FOXCONN ELECTRONICS, INC.	HF08030-P1
1	J7B3	CONN, ZIF R/A SKT SMT 28CKT	MOLEX CONNECTOR CORPORATION	524352891
1	J8C1	CONN,SKT,478P,BGA, 0.05,SMT,ZIF	FOXCONN ELECTRONICS, INC.	PZ47807-2748-01
2	J1B2,J2B2	CONN,CEDG,184P,PC I,VT,0.05,062ST	TYCO ELECTRONICS	145168-4
4	J5C1,J5E1,J6C1,J6E1	2 PIN THERMAL ANCHOR CLIP 	FOXCONN	HB96030-DW
1	J9J1	CONN,HDR,2 X 10,PLG,VT,0.165,093S T,KP P>	FOXCONN ELECTRONICS, INC.	HM25100-P1
1	J7A2	CONN,I/ O,25P,DSUB,RA,,109, 093ST	FOXCONN ELECTRONICS, INC.	DM11351-PR1
1	J7J1	CONN,HDR,2 X 17,PLG,VT,0.1,062ST, KP SHR>	FOXCONN	HL24171-U1
1	J6A1	CONN,MISC,22 P,RJ45/ 2XUSB,1000TMJACK	STEWART CONN. SYSTEM INC	SI-71006
9	J2F1,J2F2,J2G1,J2G3,J2G4,J2 H1, J3E2,J6K3,J8K1	CONN,HDR,1 X 2,PLG,VT,0.1,062ST,K P 0.23>	FOXCONN	HB1902G
1	J8E2	CONN,PWR,4P,STD,P LG,VT,0.165,062ST,SH RO>	FOXCONN ELECTRONICS, INC.	HM25020-P1

Table 22. Bill of Materials (Sheet 10 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	J4B2	CONN,CEDG,172P,AG P,VT,1MM,062ST	TYCO ELECTRONICS CORPORATION	145410-2
1	J5A1	CONN,MISC,13 P,AUDIO JACK,3-STACK	FOXCONN ELECTRONICS, INC.	JA33331-G05
4	J5F2,J5F3,J5G1,J5G2	CONN,CEDG,184P,DI MM,VT,0.05,062ST	TYCO ELECTRONICS CORPORATION	390241-1
1	J5H2	CONN,HDR,2 X 20,PLG,VT,0.1,062ST, KP 20,>	WIESON ELECTRONIC	2120C888-005
1	J5J1	CONN,HDR,2 X 20,PLG,VT,0.1,062ST, KP 20,>	FOXCONN	HL24201-D2
0	J6R1	2X25 SM CONN W/2 LOCATOR POSTS	ROBINSON NUGENT	P08-050SL-A-G
3	J2B3,J3B2,J4B1	CONN,CEDG,120P,PC I,VT,0.05,093ST	FOXCONN ELECTRONICS, INC.	EH06011-GL-1
1	J6J1	CONN,HDR,1 X 2,PLG,VT,0.1,093ST,K P PG >	FOXCONN ELECTRONICS, INC.	HF06021-P1
2	J2A1,J3H1	CONN,HDR,1 X 4,SHD,VT,0.1,062ST,K P PG >	TYCO ELECTRONICS CORPORATION	104450-3
1	J2B1	CONN,HDR,2 X 5,PLG,VT,0.1,062ST,K P 8	WIESON ELECTRONIC	2100C888-042
2	J3H2,J3H3	CONN,MISC,7 P,THM SATA,VERTICAL	MOLEX CONNECTOR CORPORATION	67491-0030
2	J5J2,J7K1	CONN,HDR,1 X 3,PLG,VT,0.1,062ST,K P 0.23>	FOXCONN	HB2903G

Table 22. Bill of Materials (Sheet 11 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	J1B3	CONN,HDR,2 X 5,PLG,VT,0.1,062ST,K P 6,PG>	FOXCONN ELECTRONICS, INC.	HC1905G-P1
1	J1B1	CONN,CEDG,60P,PCI, VT,0.05,062ST	FOXCONN ELECTRONICS, INC.	EH03011-GU-N
1	J3E1	CONN,HDR,2 X 5,PLG,VT,0.1,062ST,K P 2,PG>	FOXCONN	HC2905G-P3
1	J5K1	CONN,HDR,1 X 2,SHD,VT,2.5MM,093 P,KP	TYCO ELECTRONICS CORPORATION	172681-2
0	J6K1	2X8 HDR KEY PINS 10 AND 14	WIESON TECHNOLOGIES CO., LTD	2100C888-052
2	J6K2,J7H1	CONN,HDR,2 X 5,PLG,VT,0.1,062ST,K P 10,P>	WIESON ELECTRONIC	2100C888-003
1	J6K4	CONN,HDR,1 X 3,PLG,VT,0.1,093ST,K P 0.23>	WIESON ELECTRONIC	2100C888-002
3	L9E1,L9C2,L9C1	INDCT,400.00 nH,30.00 A,15.00%,0.00125O>	PULSE ENGINEERING	PA0532
2	L4H1,L9F1	INDCT,1.00 uH,15.00 A,20.00%,0.00400OH M>	EASY MAGNET CORP.	AK1418160062A- 1R0
4	L1K1,L2J1,L7C1,L7C2	INDCT,10.00 uH,60.000 mA,30.00%,0805	TDK CORPORATION OF AMERICA	MLZ2012E100PT A1N
2	L6A1,L6A2	CHOKE,90.0 OHM 200.0MA,0805,2 LINE	TDK CORPORATION OF AMERICA	ACM20129002PT L
1	L5C1	INDCT,0.82 uH,35.000 mA,10.00%,0603	TDK CORPORATION OF AMERICA	MLF1608DR82KT

Table 22. Bill of Materials (Sheet 12 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	L5C2	INDCT,1.00 uH,1.000 A,1210,20.00%	MURATA ELEC. NORTH AMERICA	LQH32CN1R0M3 3L
1	L4G1	INDCT,1.60 uH,8.00 A,20.00%,0.00400OH M,>	PULSE ENGINEERING	P1644
0	L3E1,L3E2	COMMON MODE FILTER ACM2012	TDK CORPORATION OF AMERICA	ACM2012-900-2P-TL
0	LB8F1	LBL,BLANK,1.375 X 0.25,WHT,POLIM	BRADY CORPORATION	056145
1	M9A1	FER-BEAD,0805,30.0 OHM,3.0 A,± 25%	MURATA ELEC. NORTH AMERICA	BLM21P300SPT1
6	M5A1,M5A2,M5A3,M5A4,M5A5 , M5A6	FER-BEAD,0603,600.0 OHM,200.0 MA,	TDK CORPORATION OF AMERICA	MMZ1608Y601BT
13	Q2B1,Q3H3,Q3H4,Q4C1,Q4D2 ,Q6A1,Q6B2,Q6J1,Q6K1,Q7A2, Q7B2,Q9A1,Q9H1	IC,DS,NPN XSTR,SOT-23,SHERPA	ONS	MMBT3904LT1
0	Q1K1,Q3H1,Q3H2,Q6A3,Q6B1	XSTR MMBT3904	ONS	MMBT3904LT1
9	Q9E2,Q9E1,Q9D2,Q9C2,Q9C1, Q9D1,Q9C3,Q9D3,Q9D5	IC,DS,FET N,DPAK,STD80N02-0	ON SEMICONDUCTOR	STD80N02-011
0	Q8E1	VISHAY SI2302DS FET N-CH	SILICONIX	SI2302DS-T1
3	Q9E3,Q9D4,Q9B2	IC,DS,FET N,TO-252,IRFR3704	INTERNATIONAL RECTIFIER	FR3704
4	Q7A1,Q6A2,Q3B1,Q3E1	IC,DS,FET N,SOIC,IRF7338	INTERNATIONAL RECTIFIER	94-3411
3	Q4B1,Q8K1,Q9B1	IC,DS,FET N,SOT-23,MMBF170	PHILIPS	PMBF170
2	Q4A1,Q5A1	IC,DS,PNP XSTR,SOT223,BCP69 T1	ON SEMICONDUCTOR	BCP69T1

Table 22. Bill of Materials (Sheet 13 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	Q7B1	IC,DS,PNP XSTR,SOT-23	SEMICON	MMBT3906LT1
1	Q5B1	IC,DS,FET P,SOT-23	FAIRCHILD SEMICONDUCTOR CORP	NDS352AP
2	Q4G2,Q4G3	IC,DS,FET N,DPAK,NTD80N02	ON SEMICONDUCTOR	NTD80N02
0	Q4G4	VREG FET STD40NF3LL-1 	ST MICROELECTRONI CS	D40NF3LL- 1(034Y)
1	Q5C1	IC,DS,FET N,DPAK,STD17NF03L	ST MICROELECTRONI CS	STD17NF03LT4
5	Q3B2,Q4B2,Q4D1,Q4G1,Q7K1	IC,DS,NPN XSTR,SOT6,MBT3904	SEMICONDUCTOR COMPONENTS INDUSTRIES LLC	MBT3904DW1T1
2	Q4E1,Q4H2	IC,DS,FET N,D2PAK,NTB18N06L	ON SEMICONDUCTOR	NTB18N06L
0	Q4H1	STD17NF03LFET 	ST MICROELECTRONI CS	STD17NF03LT4
1	Q4F1	IC,DS,FET N,TO- 252,D40NF3LL-1	ST MICROELECTRONI CS	D40NF3LL
0	Q5J1	FET N-CH 	DIODES INC/ LITEON POWER SEMI	BS870
0	No pop	IC,DS,NPN XSTR,SOT-23	PHILIPS COMPONENTS	PMBT2222A T/R
7	R6G3,R6G7,R6G8,R7G6,R8B1, R8G1,R8G2	RES D,0603,56.00 OHM,5.00%,1/16W	ROHM	MCR03FZHJ560

Table 22. Bill of Materials (Sheet 14 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
37	R8B24,R8B20,R8B18,R8B21,R8B27,R8B22,R4W5,R7J1,R8J3,R8J6,R8J5,R8J4,R7A2,R6B20,R4A6,R4A18,R4A21,R4A19,R4B8,R4H2,R4E1,R4A10,R8K5,R7K4,R5W1,R5K4,R7R2,R7L4,R7L6,R9W2,R6W1,R6W8,R7Y1,R6W9,R6W7,R6W10,R6K12	RES D,0603,1.00 KOHM,5.00%, 1/16W	PHILIPS	2322-702-60102
1	R4D5	RES D,0603,6800.000OHM,5.00%,1/16W	KOA	RM73B1JTDD682J
11	R2C1,R3C1,R3D1,R3C7,R4C2,R3C5,R7B3,R3C2,R2D1,R8T1,R7T8	RES D,0603,2700.000OHM,5.00%,1/16W	YAGEO	RC0603JR-07-2K7
91	R1C2,R1C4,R2M1,R2M2,R2M4,R2M6,R2N1,R2N3,R2V4,R2V5,R2W2,R3C8,R3E1,R3E2,R3E3,R3E5,R3E6,R3E8,R3G9,R3H2,R3M2,R3M3,R4A3,R4B2,R4C3,R4C4,R4D1,R4D11,R4D13,R4E4,R4E5,R4F5,R4G2,R4G6,R4G8,R4G11,R4W4,R4W6,R5A2,R5A4,R5A6,R5C1,R6B6,R6B14,R6C12,R6J4,R6K4,R6L1,R6T2,R6T3,R6W5,R7C1,R7D5,R7L12,R7L16,R7T9,R7T11,R7T12,R7U1,R7U2,R7U6,R7U7,R7U9,R7U17,R7U26,R7U28,R8B5,R8B13,R8B15,R8B16,R8B23,R8B33,R8B34,R8B35,R8B36,R8C2,R8C3,R8D2,R8J1,R8R2,R8U24,R8U25,R8W2,R8Y3,R9A1,R9A2,R9A3,R9A4,R9M1,R9W3,R9W4	RES D,0603,0.00 OHM,5.00%,1/16W	KOA	RM73Z1JT000Z
8	R1A1,R1A3,R1A8,R1B4,R2A27,R4A4,R6B29,R6B30	RES D,0402,0.00 OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RK73Z1ETP000
3	R9B4,R9D1,R9E1	RES D,0805,2.200OHM,5.00%,1/10W	KOA	RM73B2ATDD2R2J
0	R1K3,R4L1	RES D,0603,220.00 OHM,5.00%,1/16W	PANASONIC INDUSTRIAL	ERJ3GEYJ221V
3	R1K1,R6B3,R8E2	RES D,0603,15000.000OHM,5.00%,1/16W	VISHAY	CRCW0603-153JRT1

Table 22. Bill of Materials (Sheet 15 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
0	R1T2,R2M3,R2M5,R3E4,R3E7, R3M5,R4B1,R4G10,R4M1,R4M 2,R5A5,R5B1,R5C2,R5G3,R5M 2,R6A9,R6A10,R6A11,R6A12,R 6B8,R6B21,R6K6,R7R1,R7T3, R7T4,R7U10,R8B14,R8B19,R8 B25,R8B26,R8B28,R8B31,R8B 32,R8D1,R8R1	RES D,0603,0.00 OHM,5.00%, 1/16W	ROHM CORPORATION	MCR03EZJ000
47	R1A12,R1B2,R1B3,R1K2,R1T5, R1T6,R1T7,R1T11,R1T13,R1U2 ,R1U4,R1U5,R1U9,R1U10,R1U 14,R1U15,R2V1,R2V2,R2V6,R 2V7,R3L1,R3L2,R4W2,R6A4,R 6A5,R6A6,R6B4,R6B19,R6H1, R6J2,R6K2,R6U5,R6U7,R6U8, R7A1,R7B1,R7B2,R7L3,R7L5, R7L14,R7U4,R8B7,R8B8,R8E4 ,R8K1,R8M2,R9L1	RES D,0603,10.00 kOHM,5.00%, 1/16W	KOA SPEER ELECTRONICS	RK73H1JT1002F
3	R1J2,R6B2,R8E3	RES D,0603,5600.000OHM ,5.00%, 1/16W	KOA	RM73B1JTDD562 J
1	R3M4	RES D,0603,51.00 OHM,5.00%, 1/16W	VISHAY	CRCW0603- 510JRT1
14	R6G1,R6G2,R6G4,R6G5,R6G6 ,R6G9,R7B5,R7G1,R7G2,R7G3 ,R7G4,R7G5,R8G3,R8K3	RES D,0603,47.00 OHM,5.00%, 1/16W	KOA	RM73B1JTDD470 J
2	R1H2,R7B6	RES D,0603,27.40 OHM,1.00%, 1/16W	KOA SPEER ELECTRONICS	RK73H1JTDF27R 4
3	R7B10,R7T13,R8D3	RES D,0603,61.900OHM,1. 00%, 1/16W	VISHAY	CRCW0603- 61R9FRT1
3	R1L2,R7B7,R7Y2	RES D,0603,680.00 OHM,5.00%, 1/16W	KOA	RM73B1JTDD681 J
1	R8B39	RES D,0603,681.000OHM, 1.00%, 1/16W	VISHAY- DALE ELECTRONICS INC	CRCW06036810F RT5
1	R7B9	RES D,0603,150.00 OHM,5.00%, 1/16W	KOA	RM73B1JTDD151 J
0	R3M1,R6K14	RES D,0603,47.00 OHM,5.00%, 1/16W	VISHAY- DALE ELECTRONICS INC	CRCW0603470JR T5
2	R4E3,R7B4	RES D,0603,39.20 OHM,1.00%, 1/16W	KOA	RK73H1JTDD39R 2F

Table 22. Bill of Materials (Sheet 16 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
0	R1A4,R1A7,R1A9,R2A6,R2A7,R2A8,R2A9,R2A10,R2A26,R2B2,R4G4,R4G5,R6B35,R6B36,R8B11,R8B12	RES D,0402,0.00 OHM,5.00%,1/16W	VISHAY- DALE ELECTRONICS INC	CRCW0402000Z RT7
0	R6A7,R6A8,R8B2	RES D,0603,2200.000OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD222 J
2	R6J7,R8M4	RES D,0402,33.00 OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RK73K1EJTP33R K
1	R9K1	RES D,0603,22000.000OHM,5.00%,1/16W	KOA	RM73B1JT223J
0	R1A13,R1A14,R1B1,R1T8,R1T9,R1T10,R1T12,R1U1,R1U3,R1U6,R1U7,R1U8,R1U11,R1U12,R1U13,R2V8,R4W1,R8K2	RES D,0603,10.00 KOHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD103 J
4	R2A5,R2A29,R2B3,R6J3	RES D,0402,1.00 KOHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1ETP102J
0	R4W3,R6C8,R6J6	RES D,0603,1000.000OHM,1.00%,1/16W	VISHAY- DALE ELECTRONICS INC	CRCW06031001F RT5
5	R1T3,R3W1,R8W1,R8W3,R8W4	RES D,0603,470.00 OHM,5.00%,1/16W	KOA	RM73B1JTDD471 J
4	R6U3,R6U4,R7D2,R8C4	RES D,0603,62.00 OHM,5.00%,1/16W	KOA	RM73B1JTDD620 J
2	R1L3,R8B40	RES D,0603,130.00 OHM,5.00%,1/16W	VISHAY-DALE	CRCW0603-131JRT1
2	R6C10,R7D1	RES D,0603,200.000OHM,1.00%,1/16W	PANASONIC	ERJ3EKF2000V
1	R8C1	RES D,0603,200.00 OHM,5.00%,1/16W	KOA	RM73B1JTDD201 J
0	R2N2	RES D,0402,47.00 OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1ETP470J
1	R7D3	RES D,0603,169.00 OHM,1.00%,1/16W	VISHAY	CRCW0603-1690FRT1

Table 22. Bill of Materials (Sheet 17 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	R8B17	RES D,0603,453.00 kOHM,1.00%,1/16W	VISHAY- DALE ELECTRONICS INC	CRCW06034533F RT5
1	R8B10	RES D,0603,10.00 OHM,5.00%,1/16W	ROHM	MCR03FZJH100
3	R8B6,R8B4,R8B3	RES D,0603,200 kOHM,1.00%,1/16W	KOA SPEER ELECTRONICS	RK73H1JTD2003 F
1	R8B9	RES D,0603,150.00 kOHM,1.00%,1/16W	KOA	RK73H1JTDD150 3F
1	R9B1	RES D,0603,61.90 kOHM,1.00%,1/16W	KOA	RK73H1JTDD619 2F
1	R9B3	RES D,0603,52.30 kOHM,1.00%,1/16W	PANASONIC INDUSTRIAL	ERJ3EKF5232A
2	R6D1,R9W1	RES D,0603,20.000OHM,1. 00%,1/16W	KOA	RK73H1JTDD20R 0F
0	No pop	RES D,0603,32.40 OHM,1.00%,1/16W	ROHM CORPORATION	MCR03EZHF32R 4
4	R4F3,R5E1,R6E2,R6E3	RES D,0603,10000.000OH M,1.00%,1/16W	KOA	RK73H1JT1002F
4	R4F1,R4F2,R6E5,R6E6	RES D,0603,42.20 OHM,1.00%,1/16W	KOA	RK73H1JTDD42R 2F
29	R2F2,R2F3,R2F5,R2F6,R5B2, R5B4,R5H1,R5J1,R5M1,R6B22 ,R6B25,R6B27,R6B31,R6B33,R 6B37,R6C1,R6C3,R6C5,R6C6, R6C7,R7T14,R8M3,R8N2,R8N 3,R8U7,R9P1,R9P2,R9P3,R9P 4	RES D,0603,33.00 OHM,5.00%,1/16W	YAGEO	RC03J-330
3	R6B12,R6B17,R6W12	RES D,0603,2490.000OHM ,1.00%,1/16W	VISHAY	CRCW0603- 2491FRT1
10	R1L4,R1L5,R1L6,R3W3,R5B5, R6B9,R6B11,R6K3,R8Y5, R3H3	RES D,0603,1000.000OHM ,1.00%,1/16W	KOA	RK73H1JTDD100 1F
2	R6B10,R7L2	RES D,0603,1.00 OHM,5.00%,1/16W	AVX CERAMICS CORP	CR10-1R0J-T
2	R6B7,R6B16	RES D,0603,2000.000OHM ,1.00%,1/16W	KOA	RK73H1JT2001F

Table 22. Bill of Materials (Sheet 18 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
0	R6B5,R6B15	RES D,0603,2000.000OHM ,1.00%,1/16W	KOA	RK73H1JT2001F
1	R6B18	RES D,0603,220.00 OHM,5.00%,1/16W	KOA	RM73B1JTDD221 J
25	R4A5,R4A8,R4A9,R4A11,R4A13,R4A15,R4A16,R4A17,R6B23,R6B26,R6B28,R6B32,R6B34,R6B38,R6C2,R6C4,R6K7,R6Y1,R6Y2,R6Y3,R6Y4,R6Y5,R6Y6,R6Y7,R6Y8	RES D,0603,49.900OHM,1.00%,1/16W	PHILIPS	2322-704-64999
1	R6B24	RES D,0603,475.000OHM, 1.00%,1/16W	KOA	RK73H1JTDD475 0F
4	R4F4,R5E2,R6E1,R6E4	RES D,0603,30100.000OH M,1.00%,1/16W	KOA	RK73H1JTDD301 2F
1	R8B38	RES D,0603,470000.000O HM,5.00%,1/16W	KOA	RM73B1JT474J
1	R8B30	RES D,0603,249.00 kOHM,1.00%,1/16W	KOA	RK73H1JT2493F
1	R7L1	RES D,0603,750000.000O HM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD754 J
0	No pop	RES D,0603,1500.000OHM ,1.00%,1/16W	KOA	RK73H1JTDD150 1F
1	R6C9	RES D,0603,301.000OHM, 1.00%,1/16W	KOA	RK73H1JTDD301 0F
3	R4F6,R6T1,R7D4	RES D,0603,150.000OHM, 1.00%,1/16W	AVX CERAMICS CORP	CR10-1500F-T
2	R6C11,R6W3	RES D,0603,102.00 OHM,1.00%,1/16W	KOA	RK73H1JTDD102 0F
5	R5K1,R6U6,R7L7,R7L13,R7U12	RES D,0603,4700.000OHM ,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JT472J

Table 22. Bill of Materials (Sheet 19 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
81	R2B4,R2B5,R2B6,R2B7,R2F1, R2F4,R2F7,R2F8,R2F9,R2F10, R2F11,R2F12,R2G1,R2G2,R2G 3,R2G4,R2G5,R2G6,R2G7,R2 G8,R2V3,R2V9,R2W1,R3G1,R 3G2,R3G5,R3G7,R3G8,R3G10, R3H1,R6H2,R6J1,R6U2,R7T1, R7T2,R7T5,R7T6,R7T7,R7U11, R7U13,R7U14,R7U15,R7U16,R 7U18,R7U19,R7U20,R7U21,R7 U22,R7U23,R7U25,R7U27,R8T 2,R8T3,R8T4,R8T5,R8T6,R8T7 ,R8T8,R8T9,R8U1,R8U2,R8U3, R8U4,R8U5,R8U6,R8U8,R8U9, R8U10,R8U11,R8U12,R8U13,R 8U14,R8U15,R8U16,R8U17,R8 U18,R8U20,R8U21,R8U22,R8U 23,R8W6	RES D,0603,8200.000OHM ,5.00%,1/16W	YAGEO	RC0603JR-07- 8K2
0	R2A22,R2A24,R2A28,R5A1	RES D,0402,2.20 kOHM,5.00%,1/16W	VISHAY- DALE ELECTRONICS INC	CRCW0402222JR T7
0	R4A12,R5A3	RES D,0603,5100.000OHM ,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD512 J
0	R4A14,R5A7	RES D,0603,100000.000O HM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD104 J
0	R5B3	RES D,0603,33.00 OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD330 J
0	R6B13	RES D,0603,10.00 OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD100 J
0	R2A15	RES D,0402,4.70 kOHM,5.00%,1/16W	VISHAY- DALE ELECTRONICS INC	CRCW0402472JR T7
1	R5D1	RES D,0603,43.20 OHM,1.00%,1/16W	KOA	RK73H1JTDD43R 2F
3	R4D4,R4D12,R6U1	RES D,0603,52.30 OHM,1.00%,1/16W	KOA	RK73H1JT52R3F

Table 22. Bill of Materials (Sheet 20 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
7	R4F7,R4G1,R5G1,R5G2,R7L8,R7L9,R7L11	RES D,0603,75.000OHM,1.00%,1/16W	KOA	RK73H1JT75R0F
0	R1T4,R4A7,R4G3,R6J5,R6K1,R6K11	RES D,0603,1.00 KOHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD102J
1	R5G4	RES D,0603,20000.000OHM,5.00%,1/16W	KOA	RM73B1JT203J
0	No pop	RES D,0603,1100.000OHM,1.00%,1/16W	ROHM CORPORATION	MCR03FZHF1101
0	No pop	RES D,0603,1.15 KOHM,1.00%,1/16W	KOA	RK73H1JTDD1151F
3	R4A1,R4B4,R4B5	RES D,0603,3300.000OHM,5.00%,1/16W	AVX CERAMICS CORP	CR10-332J-D
0	R4A2	RES D,0603,549.00 OHM,1.00%,1/16W	KOA SPEER ELECTRONICS	RK73H1JTDD5490F
1	R4A23	RES D,0603,523.00 OHM,1.00%,1/16W	KOA	RK73H1JTDD5230F
2	R3G4,R4A20	RES D,0603,30.100OHM,1.00%,1/16W	KOA	RK73H1JT30R1F
1	R4A22	RES D,0603,604.000OHM,1.00%,1/16W	KOA	RK73H1J6040FT
1	R4B3	RES D,0603,665.00 OHM,1.00%,1/16W	PANASONIC INDUSTRIAL	ERJ3EKF6650V
2	R4B6,R8V3	RES D,0603,221.000OHM,1.00%,1/16W	KOA	RK73H1JT2210F
1	R4B7	RES D,0603,562.000OHM,1.00%,1/16W	VISHAY	CRCW0603-5620FRT1
6	R2J2,R4D3,R7L10,R7W1,R8N1,R9N1	RES D,0603,100.00 OHM,5.00%,1/16W	KOA	RM73B1JT101J
2	R4D8,R6K8	RES D,0603,100.000OHM,1.00%,1/16W	AVX CERAMICS CORP	CR10-101F-T
1	R4D6	RES D,0603,33.200OHM,1.00%,1/16W	KOA	RK73H1JT33R2F

Table 22. Bill of Materials (Sheet 21 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
2	R4D10,R4D15	RES D,0603,113.000OHM,1.00%,1/16W	KOA	RK73H1JT1130F
2	R4D7,R4D14	RES D,0603,226.00 OHM,1.00%,1/16W	KOA	RK73H1JTDD2260F
2	R4D9,R4D16	RES D,0603,147.000OHM,1.00%,1/16W	PANASONIC	ERJ3EKF1470V
1	R4E2	RES D,0603,60.40 OHM,1.00%,1/16W	KOA	RK73H1JTDD60R4F
1	R7T10	RES D,0603,22.60 OHM,1.00%,1/16W	VISHAY	CRCW0603-22R6FRT1
7	R2C2,R3C3,R3C4,R3W2,R6Y9,R6Y10,R8D4	RES D,0603,300.00 OHM,5.00%,1/16W	VISHAY	CRCW0603-301JRT1
1	R4H1	RES D,THM,0.00 OHM	VISHAY	FRJ-55-0%
5	R6K9,R6K10,R6K13,R8K4,R8U19	RES D,0603,750.00 OHM,5.00%,1/16W	VISHAY	CRCW0603-751JRT1
0	R2A23,R2B1	RES D,0402,10.00 KOHM,5.00%,1/16W	PANASONIC INDUSTRIAL	ERJ2GEJ103X
6	R1A6,R2A13,R2A16,R2A19,R2A20,R2A25	RES D,0402,2.20 KOHM,5.00%,1/16W	PANASONIC INDUSTRIAL	ERJ2GEF222X
0	R2A17	RES D,0402,470.00 OHM,5.00%,1/16W	VISHAY- DALE ELECTRONICS INC	CRCW0402471JRT7
2	R2A3,R2A4	RES D,0402,10.00 KOHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1ETP103J
0	R3C6,R4C5,R4C6,R4D2	RES D,0603,5600.000OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD562J
3	R6W2,R6W4,R7U5	RES D,0603,24.90 OHM,1.00%,1/16W	KOA	RK73H1JTDD24R9F
2	R3G6,R7U3	RES D,0603,10.00 MOHM,5.00%,1/16W	KOA	RM73B1JT106J
5	R6W11,R7K1,R7K2,R8V1,R8W5	RES D,0603,330.00 OHM,5.00%,1/16W	KOA	RM73B1JT331J
1	R7K3	RES D,0603,2200.000OHM,5.00%,1/16W	KOA	RM73B1JT222J

Table 22. Bill of Materials (Sheet 22 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
4	R2A12,R2A14,R2A18,R2A21	RES D,0402,4.70 KOHM,5.00%, 1/16W	KOA SPEER ELECTRONICS	RM73B1ETP472J
0	R1A10,R1A11	RES D,0402,1.00 KOHM,5.00%, 1/16W	VISHAY- DALE ELECTRONICS INC	CRCW0402102JR T7
1	R2A11	RES D,0402,150.00 OHM,1.00%, 1/16W	KOA SPEER ELECTRONICS	RK73H1ETP1500 F
3	R1H1,R4J1,R8V2	RES D,0603,45.300OHM,1. 00%, 1/16W	KOA	RK73H1JT45R3F
3	R1J1,R6B1,R8E1	RES D,0805,0.00 OHM,5.00%, 1/10W	ROHM CORPORATION	MCR10EZHMJ00 0
1	R5K2	RES D,0603,180.00 KOHM,5.00%, 1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD184 J
1	R5K3	RES D,0603,1000000.000O HM,5.00%, 1/16W	PANASONIC	ERJ3GEYJ105V
0	R6K5	RES D,0603,22000.000OH M,5.00%, 1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD223 J
8	RP3C1,RP3C2,RP3D1,RP4C1, RP4C2,RP4C3,RP7A2,RP9A1	RES A,1206,2.70 KOHM,5.00%, 1/ 4W,RPAK-SM>	ROHM CORPORATION	MNR14F0ABJ272
4	RP7B1,RP7B2,RP7C1,RP7C2	RES A,1206,62.000OHM 5.00%, 1/4W,RPAK- SM>	VISHAY	CRA06S0803620 JRT1
42	RP5G1,RP5G2,RP5G3,RP5G4, RP5G5,RP5G6,RP5G7,RP5G8, RP5G9,RP5G10,RP6G2,RP6G 4,RP6G5,RP6G7,RP6G9,RP6G 11,RP6G12,RP6G14,RP7G1,R P7G3,RP7G4,RP7G5,RP7G7,R P7G9,RP7G10,RP7G11,RP7G1 3,RP8G2,RP8G3,RP8G4,RP8G 5,RP8G6,RP8G7,RP8G8,RP8G 10,RP8G11,RP8G12,RP8G13,R P8G14,RP8G15,RPG7G1,RPG 7G2	RES A,1206,56.000OHM 5.00%, 1/4W,RPAK- SM>	AVX CERAMICS CORP	CRA3A4E560JK

Table 22. Bill of Materials (Sheet 23 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
12	RP6G1,RP6G3,RP6G6,RP6G8,RP6G10,RP6G13,RP7G2,RP7G6,RP7G8,RP7G12,RP8G1,RP8G9	RES A,1206,47.000OHM 5.00%,1/4W,RPAK-SM>	ROHM CORPORATION	MNR14F0ABJ470
1	RP8A1	RES A,1206,10.00 kOHM,5.00%,1/4W,RPAK-S>	ROHM CORPORATION	MNR14F0ABJ103
7	RP5B1,RP5B2,RP5C1,RP5C2,RP7A1,RP8A2,RP8A3	RES A,1206,33.00 OHM,5.00%,1/4W,RPAK-SM>	ROHM CORPORATION	MNR14F0ABJ330
0	RP3B1,RP6A1	RES A,1206,0.00 OHM,5.00%,1/4W,RPAK,4,8>	ROHM CORPORATION	MNR14E0ABJ000
2	RP4B1,RP4D1	RES A,1206,8.20 kOHM,5.00%,1/4W,RPAK-SM>	ROHM CORPORATION	MNR14F0ABJ822
3	RP2A1,RP2A2,RP2B1	RES A,1206,6.80 kOHM,5.00%,1/4W,RPAK-SM>	ROHM CORPORATION	MNR14F0ABJ682
1	RP8J1	RES A,1206,4.70 kOHM,5.00%,1/4W,RPAK-SM>	VISHAY	CRA06S0803472 JRT51
0	RP6J1	RES A,2010,22.00 OHM,5.00%,1/2W,RPAK-SM>	VISHAY- DALE ELECTRONICS INC	CRA12S0803322 0J
3	RT3E1,RT6A1,RT7A1	POLY SWITCH,SMT,1.100A	RAYCHEM CORPORATION	MINISMDC110-2
1	RT9B1	THRMSTR,0603,100.00 kOHM,5.00%	VISHAY- DALE ELECTRONICS INC	NTHS0603N01N1003JR
1	LS6K1	AUDIO XDCR,800OHM,2400HZ,85DB,THM,5V	CHALLENGE ELECTRONICS	DBX-05A
3	U9B1,U9D1,U9E1	IC,LIN,DRVSR,8,SOIC,ADP3418,FETDVR	ANALOG DEVICES	ADP3418JR
1	U8B3	IC,LIN,SOT23,SPN020060,VREG	MICREL INC	SPN020060
1	U8B2	IC,LIN,SPRVSR,24QSOP,ADM1027ARQ, AH	ANALOG DEVICES	ADM1027ARQRE EL7
3	U7A1,U7A2,U7H1	IC,LIN,INTF,RS232,GD75232,SSOP,RS232,0.>	TEXAS INSTRUMENT	GD75232DBR

Table 22. Bill of Materials (Sheet 24 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	U3F1	HANCE RAPIDS	INTEL CORP	88HRE4
1	U8H1	IC,VLSI,SIO,LPC47M1 42C,QFP,128	STANDARD MICROSYSTEMS CORP.	LPC47M142-NC
1	U8B1	IC,LIN,TSSOP,ADP31 68,CONTROLR	ANALOG DEVICES	ADP3168JRU- REEL7
1	U6J1	IC,ASIC,GC4PHLPS,5 6 TSOP	PHILLIPS SEMICONDUCTOR S	PCA9504A
1	U5B2	IC,CLK_DRVR,56 SSOP,ICS952601EFT, GNRTR	INTEGRATED CIRCUIT SYSTEMS	ICS952601EFT- INO
1	U4G1	SC2614 SEMTECH 3 IN 1 DDR VREG 	SEMTECH CORPORTION	SC2614MLTR
2	U4H1,U5C1	IC,LIN,OP AMP,SOIC,LM358	NATIONAL SEMICONDUCTOR	LM358MX
1	U4A1	ASSY,IC,CHIPSETS,G D,N/A,82547 GI,B,1,19>	INTEL CORP	GD82547GI Q786
1	U4B1	IC,EEPROM,SOIC,100 .000 MHZ,2048X8	A & J PROGRAMMING HOUSE	C18707-001
1	U7K1	IC,FLASH,82802AB,3 2,PLCC,4 MBIT	INTEL CORP	N82802AB SB48
1	U5D1	ASSY,IC,CHIPSETS,R G,N/ A,82875P,A,2,1005>	INTEL CORP	82875P QE44
1	U1A1	IC,LIN,DPAK,78M05,V REG	NATIONAL SEMICONDUCTOR	LM78M05CDT
1	U2A1	IC,VLSI,AUDIO,STAC 9752,TQFP,48	SIGMATEL INC.	STAC9752T
3	Q2H1,Q4J1,U1H1	IC,LIN,DPAK,MC3326 9,VREG	ON SEMICONDUCTOR	MC33269DT
0	U1H2	3.45V EZ1086 VOLTAGE REG 	SEMTECH CORPORTION	EZ1086CM-3.45 TR
1	XBT5K1	BAT ACC,HOLDR,THM,CR 2032	CHIA TSE TERMINAL INDUSTRY CO., LTD.	B7566BP5R

Table 22. Bill of Materials (Sheet 25 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	XY3G1	XTAL,MOLD,32.7680,KHZ,0.002%,SM	EPSON AMERICA INC.	MC405S-32.768K-A
1	Y6B1	XTAL,HC49S,14.3182,MHZ,20,PF,0.005%,SM	RALTRON	AS14.31818-20-SMDT
1	Y5B1	XTAL,HC49S,25.0000,MHZ,20,PF,0.005%,SM	RALTRON	630770-011
1	C7U17	CAPC,X7R,0603,0.047 UF,16.000V,+/- 5%	TDK CORPORATION OF AMERICA	C1608X7R1C473JT009N
0	C6K6	CAPC,X7R,0603,1000.000 PF,50.000V,+/- 1>	MURATA ELEC. NORTH AMERICA	GRM39X7R102K050AJ
5	Q7J2,Q7J1,Q9F2,Q9F3,Q9F1	IC,DS,NPN XSTR,SOT-23,BC847C	PHILIPS COMPONENTS	BC847C
0	R6W6,R7L15,R7U8,R7U24,R8J2,R8L1,R8Y2,R8Y4	RES D,0603,8200.000OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD822J
1	T4J1	XFMR LAN,1000 BASE T,SMT,24 Pins,SINGLE	PULSE	H5007
0	U2K1	FLASH,4M BIT,RW,TOP-	ATMEL	AT49LV040-70JC
1	U5B1	CONN,JACK,SMA,ST	TYCO ELECTRONICS CORPORATION	1053354-1
0	U2J2	PCI=X TO SERIAL AT	INTEL CORP	GD31244
0	U3A1	IC,VLSI,VIDEO,M69000,BGA,256	ASILANT TECHNOLOGIES	M69000
4	C7L1,C7L3,C7L8,C7L9	CAPC,C0G,0603,470.000 PF,50.000V,+/- 5%>	KEMET	C0603C471J5GAC
3	C9B6,C9D7,C9E4	CAPC,X7R,1206,0.100 UF,50.000V,+/- 10%	TDK CORPORATION OF AMERICA	C3216X7R1H104KT

Table 22. Bill of Materials (Sheet 26 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	C1J3	CAPC,X7R,0805,0.10 0 UF,50.000V,+/- 10%	TDK CORPORATION OF AMERICA	C2012X7R1H104 KT
2	C2A21,C3A1	CAPC,X7R,0805,0.10 0 UF,50.000V,+/- 20%	TDK CORPORATION OF AMERICA	C2012X7R1H104 KT
1	U2J3	IC,EEPROM,BL,SOIC, 10NS,64X16	ATMEL	AT93C46-10SI- 2.7
1	U9A1	IC,LIN,COMPARATOR ,SOIC,LM393A,DUAL	TEXAS INSTRUMENT	LM393ADR
2	R1K4,R2J1	RES D,0805,20.000OHM,1. 00%,1/10W	KOA	RK73H2AT20R0F
1	R2K1	RES D,0603,4700.000OHM ,5.00%,1/10W	AVX CERAMICS CORP	CR10-472J-K
2	R2K2,R2K3	RES D,0805,10000.000OH M,5.00%,1/10W	VISHAY- DALE ELECTRONICS INC	CRCW0805- 103JRT1
5	CR3A1,CR3A2,CR3A3,CR3A4, CR3A5	IC,DS,DIO,SOT- 23,BAT54SL1,SHTKY	FAIRCHILD SEMICONDUCTOR CORP	BAT54S
2	C1A12,C1B3	CAPT,E/X,22.000 UF,35.000V,+/- 20%	AVX CERAMICS CORP	TAJE226K035R
0	C1J1,C1K3,C2J1,C2K2	CAPT,B,22.000 UF,10.000V,+/- 20%	KEMET	T491B226M010A S7454
1	R1L1	RES D,0603,7500.000OHM ,5.00%,1/16W	ROHM CORPORATION	MCR03EZHMJ75 2
1	R6V1	RES D,0603,249.000OHM, 1.00%,1/16W	KOA SPEER ELECTRONICS	RK73H1JTDD249 0F
1	R6V3	RES D,0603,422.000OHM, 1.00%,1/16W	SEI	RMC1/16-4220F
2	R4G9,R8B29	RES D,0603,1300.000OHM ,1.00%,1/16W	PANASONIC INDUSTRIAL	ERJ3EKF1301V

Table 22. Bill of Materials (Sheet 27 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
1	R8Y1	RES D,0603,2210.000OHM ,1.00%,1/16W	ASJ	CR16-2211-FF
2	R3V1,R3V2	RES D,0603,4750.000OHM ,1.00%,1/16W	VISHAY	CRCW0603-4751F
1	R6V2	RES D,0603,255.00 OHM,1.00%,1/16W	KOA SPEER ELECTRONICS	RK73H1JTD2550 F
1	RP4K1	RES A,1206,75.000OHM 5.00%,1/4W,RPAK- SM>	KOA SPEER ELECTRONICS	CNK1J4TDD750J
2	RP1G1,RP4F1	RES A,1206,220.000OHM 5.00%,1/4W,RPAK-S>	KOA SPEER ELECTRONICS	CNK1J4TDD221J
1	RP3K1	RES A,1206,510.000OHM 5.00%,1/4W,RPAK-S>	KOA SPEER ELECTRONICS	CNK1J4TDD511J
1	U4K1	CONN,I/ O,8P,RJ45,RA,0.05,06 2ST,W/LEDS	TYCO ELECTRONICS CORPORATION	406549-4
18	C1J2,C2J2,C2J3,C2J4,C2J5,C2 K3,C3H2,C3H3,C3H4,C3K3,C3 K4,C4J1,C4J7,C4J8,C4J13,C4 K1,C4K3,C4K4	CAPT,B,10.000 UF,16.000V,+/- 20%	NICHICON	F931C106MBAAS T
1	C4K2	CAPC,X7R,0603,1500 .000 PF,50.000V,+/- 1>	AVX CERAMICS CORP	06035C152KAT2 A
2	C8B7,C9W12	CAPC,X7R,0603,2200 .000 PF,50.000V,+/- 1>	AVX CERAMICS CORP	06035C222KAT2 A
1	C8W18	CAPC,C0G,0603,15.0 00 PF,50.000V,+/- 5%	KEMET	C0603C150J5GA C
0	R1T1	RES D,0603,8.20 kOHM,1.00%,1/16W	KOA SPEER ELECTRONICS	RK73H1JTDD820 1F
1	Y3K1	XTAL,25.000,HC49S, SMD	ECLIPTEK	EC2SM-25.000M

Table 22. Bill of Materials (Sheet 28 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
2	C3K5,C3K6	CAPC,X5R,1210,22.000 UF,6.3V,+/- 20%>	SAMSUNG	CL32A226KQNE
1	U3K1	IC,LIN,DDPAK,LT1587,VREG	LINEAR TECHNOLOGIES	LT1587CM-1.5
1	Y1J1	OSC,CX0,4,SMD 37.500MHZ,50PPM,3.3V,CMOS>	CITIZEN AMERICA CORP.	CSX750FCB37.500MTR
7	FB3A1,FB3A2,FB3A3,FB3A4,FB3A5,FB3A6,FB4K1	FER-BEAD,0603,60.0 OHM,0.5 A,± 25%	MURATA ELEC. NORTH AMERICA	BLM11P600SPTM00-03
0	J9J2	CONN,I/O,3P,DIN,RA,2.5MM,093ST	TYCO ELECTRONICS CORPORATION	1470606-1
4	CR2J1,CR2J2,CR2J3,CR2J4	LED,SM,YELLOW,V,1.00,RC,1	STANLEY ELECTRIC SALES OF AMERICA	AY1112H-TR
3	CR2G1,CR2G2,CR2G3	LED,SM,RED,V,1.00,RC,1	CHICAGO MINIATURE LAMP	CMDA5DR7D1Z
1	U2G2	HEX,BUFFER/DRIVER	TEXAS INSTRUMENTS	SN74LVC07ADR
0	U2J1	IC,FLASH,AT25F1024N-1,8,SOIC,NA	ATMEL	AT25F1024N-10SI-2.7
1	RT9D1	THRMSTR,0603,6.80 KOHM,5.00%	VISHAY- DALE ELECTRONICS INC	NTHS0603N02N6801JR
1	U2G1	SOIC1	INTEGRATED CIRCUITSYSTEM	ICS543MT
1	U3J1	IC,ASIC,CORDOVA,A0,416 BGA	INTEL	82544EI
1	XU7K1	CONN,SKT,32P,PLCC,0.05,SMT	FCI-BERG	PLCC32PTSMTR SOD

Table 22. Bill of Materials (Sheet 29 of 29)

Qty	Reference Designator	Description	Mfg Name	Mfg p/n
3	R1C1,R1C3,R8M1	RES D,0603,36.00 OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD360J
1	R4G7	RES D,0603,1400.000OHM,1.00%,1/16W	PANASONIC INDUSTRIAL	ERJ3EKF1401V
1	R7V1	RES D,0603,100000.000OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD104J
0	C7L6	CAPC,X7R,0603,0.010 UF,50.000V,+/- 10%	MURATA ELEC. NORTH AMERICA	GRM39X7R103K050AJ
1	R7B8	RES D,0603,12000.000OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD123J
1	C8B3	CAPC,C0G,0603,1500.000 PF,25.000V,+/- 5%	TDK CORPORATION OF AMERICA	C1608C0G1H152JT009N
1	C8B5	CAPC,C0G,0603,1800 PF,+/- 5%	TDK	C1608C0G1H182J
1	C9B2	CAPC,C0G,0603,680.000 PF,50.000V,+/- 5%	AVX CERAMICS CORP	06035A681JAT4A
1	R8B37	RES D,0603,75000.000OHM,5.00%,1/16W	KOA SPEER ELECTRONICS	RM73B1JTDD753J
1	R9B2	RES D,0603,374000.000OHM,1.00%,1/16W	PANASONIC INDUSTRIAL	ERJ-3EKF3743V

Schematics

B

Schematics are provided for the following items listed below. Schematics are available from your local Intel representative.

- Block Diagram
- Reset Map
- Clock Distribution
- GPIO/IDSEL Mapping
- CPU Connector
- CPU Termination & Misc P/U P/D
- CPU-VCCP Filtered Analog Supply
- 875P MCH
- MCH Analog Filters
- MCH Decoupling and Comps
- Main Clock Generator
- AGP 4x/8x Connector
- AGP Swing/Vref
- DDR Channel A DIMM Connectors
- DDR Channel A Series Termination
- DDR Channel A Vterm Decoupling
- DDR Channel B DIMM Connectors
- DDR Channel B Series Termination
- DDR Channel B Vterm Decoupling
- PCI, IDE, LPC Blocks
- Host, SATA, GPIO, SMBus, Control, PCI-X
- Hublink, USB, GPIO, Serial, AC'97
- Power, GND, Decoupling, and Pullups
- GPIO Headers
- IDE Primary and Secondary
- USB Option
- USB Front Panel/CNR Vreg and Over Current
- USB Back Panel Left and Front Panel
- PCI-X Slots
- PCI-X Device Down

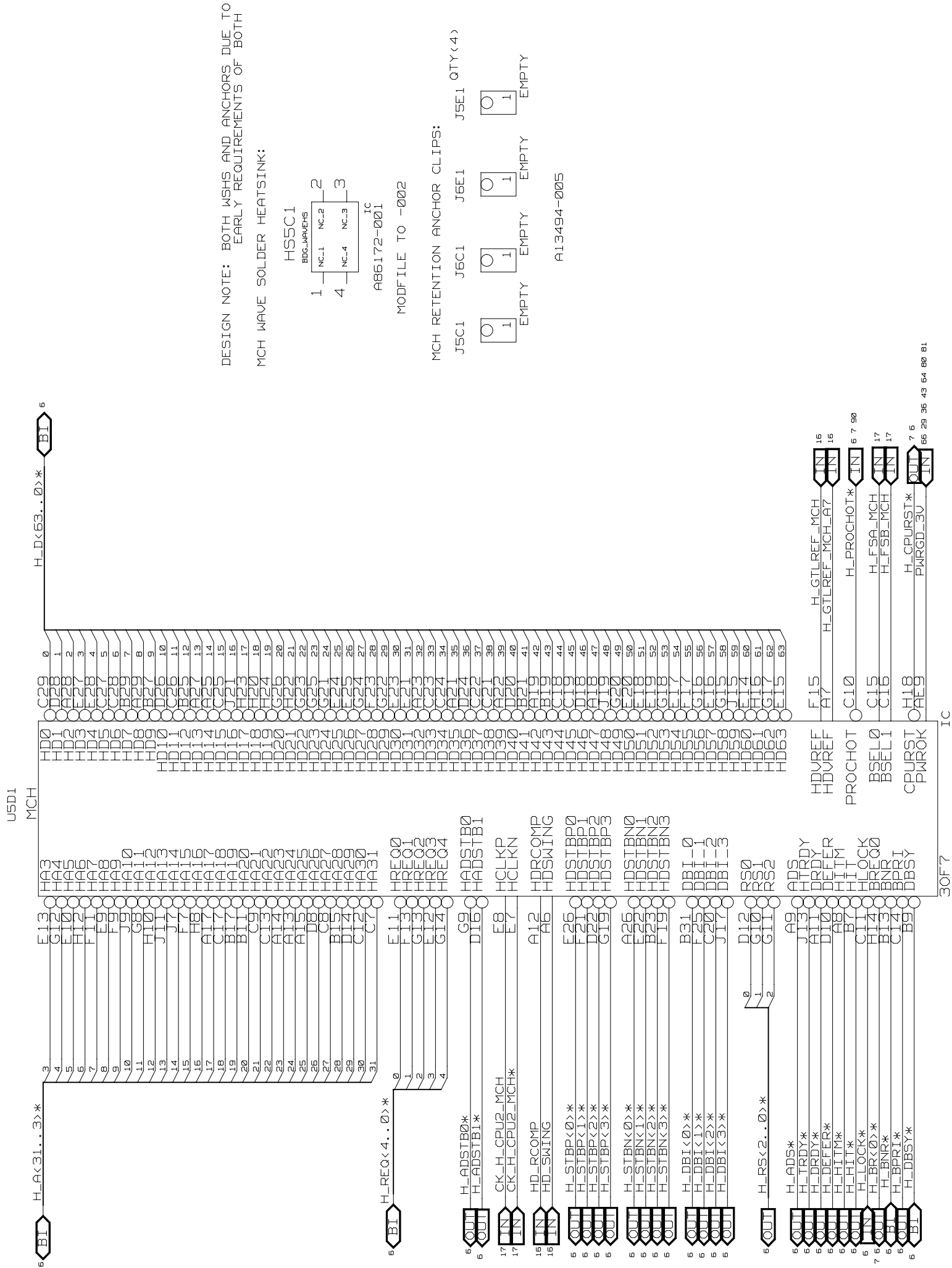
- PCI-X Termination
- CNR Connector
- Intel ® 82547GI LAN Solutions
- Magjack3/USB Connector and Diff. Pair Termination
- CSA Interface Reference
- Codec
- Codec Filtering Caps
- CD-In ATAPI Header, Line-In Connector
- Line-out Connector
- Mic-in Connector
- 6 Ch Header
- Line-out/HP Jack Sense
- Audio Vreg
- SATA Headers
- Firmware Hub, Mfg Mode, Recovery Jumpers
- Super I/o
- Gluechip4, SCSI LED Header
- Floppy
- Keyboard and Mouse Ports
- Parallel Port
- Serial Port
- Heceta5
- PC Speaker
- 2x8Front Panel Header, LED Header
- Board Labels, Mounting Holes
- Fan Control Headers
- Power Distribution Map
- Power Connectors
- 2.5V Memory, Standby Memory, 1.25 Memory
- Battery, PCI VAUX, Turn-on Sequencer
- Back Panel
- 3.3V STBY, 1.5V STBY
- Bulk Decoupling, PCI Decoupling
- MCH VTT
- Core 1.5V Vreg, LAN 1.2V and 1.8V Reg



- CPU Main Regulator
- VR Thermal Throttling
- Cross Reference Pages

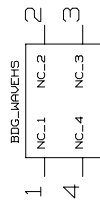
8		7	6	5	4	3	2	1								
D	PAGE #	COMPONENT/FUNCTION					INTEL(R) 875P MCH									
	1	COVER PAGE.					INTEL(R) 875P MCH / 6300ESB ICH CUSTOMER REFERENCE BOARD AND VALIDATION PLATFORM FAB D REV 1.3									
	2	TABLES: BLOCK DIAGRAM														
	3	TABLES: RESET MAP														
	4	TABLES: CLOCK DISTRIBUTION														
	5	TABLES: GPIO/IDSEL MAPPING														
	6	CORE: CPU CONNECTOR														
	7	CORE: CPU TERMINATION & MISC P/U, P/D														
	8	CORE: CPU-UCCP FILTGERED ANALOG SUPPLY														
	9-14	CORE: 875P-MCH														
C	15	CORE: MCH ANALOG FILTERS														
	16	CORE: MCH DECOUPLING AND COMPS														
	17	CORE: CK_409 (MAIN CLOCK GENERATOR)														
	18	CORE: AGP 4X/8X CONN														
	19	CORE: AGP SWING / UREF														
	20	CORE: DDR CHANNEL A DIMM CONNECTORS (0/1)														
	21-22	CORE: DDR CHANNEL A SERIES TERMINATION														
	23	CORE: DDR CHANNEL A UTERM DECOUPLING														
	24	CORE: DDR CHANNEL B DIMM CONNECTORS (0/1)														
	25-26	CORE: DDR CHANNEL B SERIES TERMINATION														
B	27	CORE: DDR CHANNEL B UTERM DECOUPLING					INFORMATOIN IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL(R) PRODUCTS. PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL AND CONDITIONS OF SALE FOR SUCH PRODUCTS. INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. INTEL PRODUCTS ARE NOT INTENDED FOR USE IN MEDICAL, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS. INTEL MAY MAKE CHANGES TO SPECIFICATIONS AND PRODUCT DESCRIPTIONS AT ANY TIME WITHOUT NOTICE. DESIGNERS MUST NOT RELY ON THE ABSENCE OR CHARACTERISTICS OF ANY FEATURES OR INSTRUCTIONS MARKED RESERVED OR UNDEFINED. INTEL RESERVES THESE FOR FUTURE DEFINITION AND SHALL HAVE NO RESPONSIBILITY WHATSOEVER FOR CONFLICTS OR INCOMPATIBILITIES ARISING FROM FUTURE CHANGES TO THEM. THE INTEL(R) PENTIUM 4 PROCESSOR AND THE INTEL(R) 875P CHIPSET PLATFORM MAY CONTAIN DESIGN DEFECTS OR ERRORS KNOWN AS ERRATA WHICH MAY CAUSE THE PRODUCT TO DEVIATE FROM PUBLISHED SPECIFICATIONS. CURRENT CHARACTERIZED ERRATA ARE AVAILABLE ON REQUEST. CONTACT YOUR LOCAL INTEL SALES OFFICE OR YOUR DISTRIBUTOR TO OBTAIN THE LATEST SPECIFICATIONS AND BEFORE PLACING YOUR PRODUCT ORDER. COPIES OF DOCUMENTS WHICH HAVE AN ORDERING NUMBER AND ARE REFERENCED IN THIS DOCUMENT, OR OTHER INTEL LITERATURE, MAY BE OBTAINED FROM: INTEL CORPORATION WWW.INTEL.COM OR CALL 1-800-548-4725 INTEL AND PENTIUM 4 ARE TRADEMARKS OR REGISTERED TRADEMARKS OF INTEL CORPORATIONS OR ITS SUBSIDIARIES IN THE UNITED STATES AND OTHER COUNTRIES. *OTHER NAMES AND BRANDS MAY BE CLAIMED AS THE PROPERTY OF OTHERS									
	28	ICH: PCI, IDE, LPC BLOCKS														
	29	ICH: HOST, SATA, GPIO, SMBUS, CONTROL, PCI-X														
	30	ICH: HUBLINK, USB, GPIO, SERIAL, AC'97														
	31-32	ICH: POWER, GROUND, DECOPLING, AND PULLUPS														
	33	ICH: GPIO HEADERS														
	34	ICH: IDE PRIMARY & SECONDARY														
	35	ICH: USB OPTION (FRONT PANEL OR CNR)														
	36	ICH: USB FRONT PANEL/CNR VREG & OVER CURRENT														
	37	ICH: USB BACK PANEL LEFT (MAGJACK) & FNT PNL														
A	38-42	ICH: PCI-X SLOTS 1-2 & PCI SLOTS 1 - 3														
	43-46	ICH: PCI-X DEVICE DOWN (82544EI GIGABIT LAN)					SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD PAGE TITLE: TITLE PAGE	REV: 1.3								
	47	ICH: PCI-X TERMINATION														
	48	ICH: PCI TERMINATION														
	49	CNR: CNR CONNECTOR														
	50-52	LAN: INTEL(R) 82547GI LAN SOLUTION														
	53	LAN: MAGJACK3/USB CONNECTOR AND DIFF PAIR TERM.														
	54	LAN: CSA INTERFACE REFERENCE														
	55	AUDIO: CODEC (AD1980, AD1981A, CS4202, STAC9752)														
	56	AUDIO: CODEC FILTERING CAPS														
	57	AUDIO: CD-IN ATAPI HEADER, LINE-IN CONN.														
	58	AUDIO: LINE-OUT CONNECTOR					NOTES: 1. THIS SCHEMATIC DOCUMENTS THE GENERIC PRODUCT WITH ALL POSSIBLE CONFIGURATIONS. PLEASE REFER TO SPECIFIC PRODUCT PBA EPLs FOR ITEMS SHOWN AS OPTIONAL IN THE SCHEMATIC. 2. RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED. 3. UCC = +5V UNLESS OTHERWISE SPECIFIED. 4. * SUFFIX INDICATES ACTIVE LOW SIGNAL. 5. \I SUFFIX INDICATES SIGNAL EXITS HIERARCHICAL BLOCK. 6. THIS DOCUMENT ALSO EXISTS ON ELECTRONIC MEDIA.	SHEET: 1/90								
	59	AUDIO: MIC-IN CONN., FRONT PANEL AUDIO HEADER														
	60	AUDIO: 6 CH HEADER														
	61	AUDIO: LINE-OUT/HP JACK SENSE														
	62	AUDIO: AUDIO VREG														
POWER SYMBOLS USED: UCC3 UCC +12V -12V							INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004	1							
8			7	6	5	4										

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D											
C											
B											
A											
SCD FIR IO S											
M Z L											
INTEL											
6300FSB											
DURING RESET											
S3/S5											
NOTES											
PIN NAME	WELL	USAGE									
GPI00	MAIN	PX_REQ2*									
GPI01	MAIN	PX_REQ3*									
GPI02	MAIN	P_INTE*									
GPI03	MAIN	P_INTF*									
GPI04	MAIN	P_INTG*									
GPI05	MAIN	P_INTH*									
GPI06	MAIN	BOARD_ID									
GPI07	MAIN	GPI_07									
GPI08	RESUME	LAN_PME*									
GPI011	RESUME	SMB_ALERT_PU*									
GPI012	RESUME	GPI_12									
GPI013	RESUME	IO_PME*									
GPI016	MAIN	PX_GNT2*									
GPI017	MAIN	PX_GNT3*									
GPI018	MAIN	GPO_18									
GPI019	MAIN	GPO_19									
GPO020	MAIN	GPO_20									
GPO021	MAIN	GPO_21									
GPO023	MAIN	GPO_23									
GPI0024	RESUME	GPI0_24									
GPI0025	RESUME	GPI0_25									
GPI0027	RESUME	GPI0_27									
GPI0028	RESUME	CDC_DWN_ENAB*									
GPI0032	MAIN	GPI0_32/WDT_OUT*									
GPI0033	MAIN	PX_IRQ0*									
GPI0034	MAIN	PX_IRQ1*									
GPI035	MAIN	PX_IRQ2*									
GPI036	MAIN	PX_IRQ3*									
GPO037	MAIN	GPI0_37									
GPO038	MAIN	GPI0_38									
GPO039	MAIN	GPI0_39									
GPO040	MAIN	GPI0_40									
GPO041	MAIN	GPI0_41									
GPO042	MAIN	GPI0_42									
GPO043	MAIN	GPI0_43									
GPO056	RTC	GPO_56									
GPO057	RTC	GPO_57									
CONFIG JUMPER											
GPI4	MAIN	NORM	INPUT	DEFINED							
GPI3	MAIN	MFG_MODE*	INPUT	DEFINED	MANUF MODE						
GPI2	MAIN	NOT USED	INPUT	DEFINED	HI/LOW BIOS CONFIG <FEATURE IS DEFAULT LOW>						
GPI1	MAIN	DMA66_DETECT_SEC	INPUT	DEFINED	HI/LOW BIOS CONFIG FOR IDE SEC <FEATURE IS DEFAULT LOW>						
GPI0	MAIN	DMA66_DETECT_PRI	INPUT	DEFINED	HI/LOW BIOS CONFIG FOR IDE PRI <FEATURE IS DEFAULT LOW>						
REAR_FAN_TACH											
GP30	MAIN	FAN2_TACH									
GP31	MAIN	FAN1_TACH									
KBDNST*	MAIN	KBDNST*									
A20M	MAIN	A20GATE									
DRVDEN0	MAIN	PA_FDD_DRVDEN0									
DRVDEN1	MAIN	PA_FDD_DRVDEN1									
IOPME*	RESUME	IO_PME*									
IRQ ROUTING TABLE											
	AGP	PCI1	PCI2	PCI3	PCI DOWN	PCI-X1	PCI-X2	PCI-X DOWN1	PCI-X DOWN2		
INTA	P_INTA*	P_INTF*	P_INTG*	P_INTB*	P_INTD*	PX_IRQ0*	PX_IRQ1*	PX_IRQ2*	PX_IRQ3*		
INTB	P_INTB*	P_INTG*	P_INTH*	P_INTC*		PX_IRQ0*	PX_IRQ2*				
INTC		P_INTH*	P_INTE*	P_INTD*		PX_IRQ2*	PX_IRQ3*				
INTD		P_INTE*	P_INTH*	P_INTA*		PX_IRQ3*	PX_IRQ0*				
REQ	G_REQ*	P_REQ0*	P_REQ1*	P_REQ2*	P_REQ3*	PX_REQ0*	PX_REQ1*	PX_REQ2*	PX_REQ3*		
GNT	G_GNT*	P_GNT0*	P_GNT1*	P_GNT2*	P_GNT3*	PX_GNT0*	PX_GNT1*	PX_GNT2*	PX_GNT3*		
IDSEL		P_AD16	P_AD17	P_AD18	P_AD19	PX_AD17	PX_AD18	PX_AD19	PX_AD20		
SCHEMATIC TITLE: INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD											
PAGE TITLE: GPIO, IRQ, IDSEL MAPS											
								REV: 1.3			
								LAST REVISED: 02.04.2004			
								SHEET: 5/90			
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630											
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DESIGN NOTE: BOTH WSHS AND ANCHORS DUE TO
EARLY REQUIREMENTS OF BOTH
MCH WAVE SOLDER HEATSINK:

HSC1

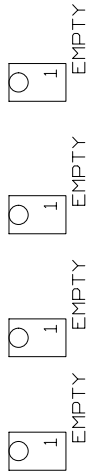


986172-001 IC

MODFILE TO -002

MCH RETENTION ANCHOR CLIPS:

ITEM	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1	ITEM 1	1	UNIT	100.00	100.00
2	ITEM 2	2	UNIT	50.00	100.00
3	ITEM 3	3	UNIT	33.33	100.00
4	ITEM 4	4	UNIT	25.00	100.00
5	ITEM 5	5	UNIT	20.00	100.00
6	ITEM 6	6	UNIT	16.67	100.00
7	ITEM 7	7	UNIT	14.29	100.00
8	ITEM 8	8	UNIT	12.50	100.00
9	ITEM 9	9	UNIT	11.11	100.00
10	ITEM 10	10	UNIT	10.00	100.00
11	ITEM 11	11	UNIT	9.09	100.00
12	ITEM 12	12	UNIT	8.33	100.00
13	ITEM 13	13	UNIT	7.69	100.00
14	ITEM 14	14	UNIT	7.14	100.00
15	ITEM 15	15	UNIT	6.67	100.00
16	ITEM 16	16	UNIT	6.25	100.00
17	ITEM 17	17	UNIT	5.88	100.00
18	ITEM 18	18	UNIT	5.56	100.00
19	ITEM 19	19	UNIT	5.26	100.00
20	ITEM 20	20	UNIT	5.00	100.00
21	ITEM 21	21	UNIT	4.76	100.00
22	ITEM 22	22	UNIT	4.55	100.00
23	ITEM 23	23	UNIT	4.35	100.00
24	ITEM 24	24	UNIT	4.17	100.00
25	ITEM 25	25	UNIT	4.00	100.00
26	ITEM 26	26	UNIT	3.85	100.00
27	ITEM 27	27	UNIT	3.70	100.00
28	ITEM 28	28	UNIT	3.57	100.00
29	ITEM 29	29	UNIT	3.45	100.00
30	ITEM 30	30	UNIT	3.33	100.00
31	ITEM 31	31	UNIT	3.23	100.00
32	ITEM 32	32	UNIT	3.13	100.00
33	ITEM 33	33	UNIT	3.03	100.00
34	ITEM 34	34	UNIT	2.94	100.00
35	ITEM 35	35	UNIT	2.86	100.00
36	ITEM 36	36	UNIT	2.78	100.00
37	ITEM 37	37	UNIT	2.70	100.00
38	ITEM 38	38	UNIT	2.63	100.00
39	ITEM 39	39	UNIT	2.56	100.00
40	ITEM 40	40	UNIT	2.50	100.00
41	ITEM 41	41	UNIT	2.44	100.00
42	ITEM 42	42	UNIT	2.38	100.00
43	ITEM 43	43	UNIT	2.33	100.00
44	ITEM 44	44	UNIT	2.27	100.00
45	ITEM 45	45	UNIT	2.22	100.00
46	ITEM 46	46	UNIT	2.17	100.00
47	ITEM 47	47	UNIT	2.13	100.00
48	ITEM 48	48	UNIT	2.08	100.00
49	ITEM 49	49	UNIT	2.04	100.00
50	ITEM 50	50	UNIT	2.00	100.00
51	ITEM 51	51	UNIT	1.96	100.00
52	ITEM 52	52	UNIT	1.92	100.00
53	ITEM 53	53	UNIT	1.89	100.00
54	ITEM 54	54	UNIT	1.85	100.00
55	ITEM 55	55	UNIT	1.82	100.00
56	ITEM 56	56	UNIT	1.79	100.00
57	ITEM 57	57	UNIT	1.76	100.00
58	ITEM 58	58	UNIT	1.73	100.00
59	ITEM 59	59	UNIT	1.70	100.00
60	ITEM 60	60	UNIT	1.67	100.00
61	ITEM 61	61	UNIT	1.65	100.00
62	ITEM 62	62	UNIT	1.63	100.00
63	ITEM 63	63	UNIT	1.61	100.00
64	ITEM 64	64	UNIT	1.58	100.00
65	ITEM 65	65	UNIT	1.56	100.00
66	ITEM 6				



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SCHEMATIC TITLE:

INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD

PAGE TITLE:

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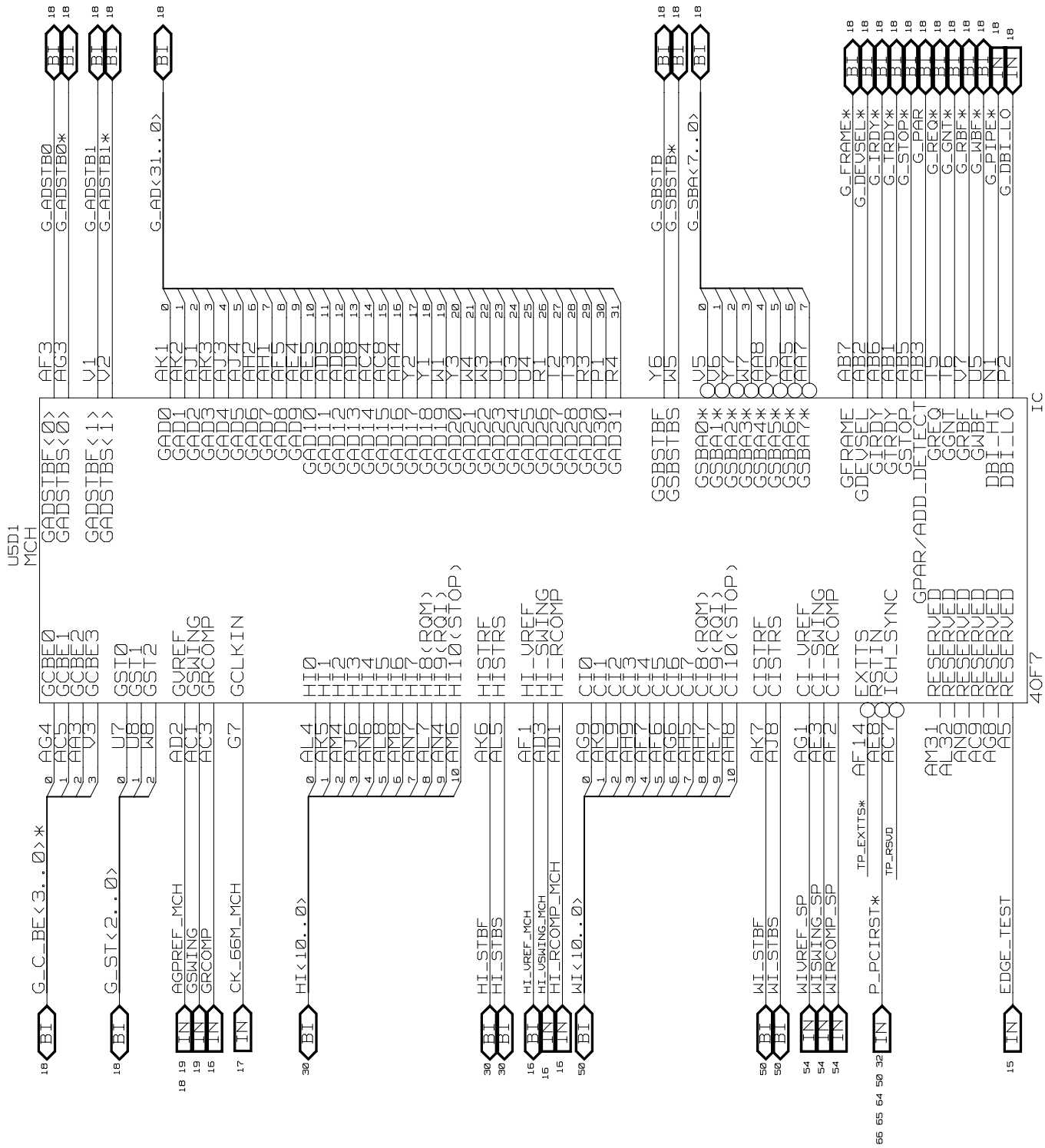
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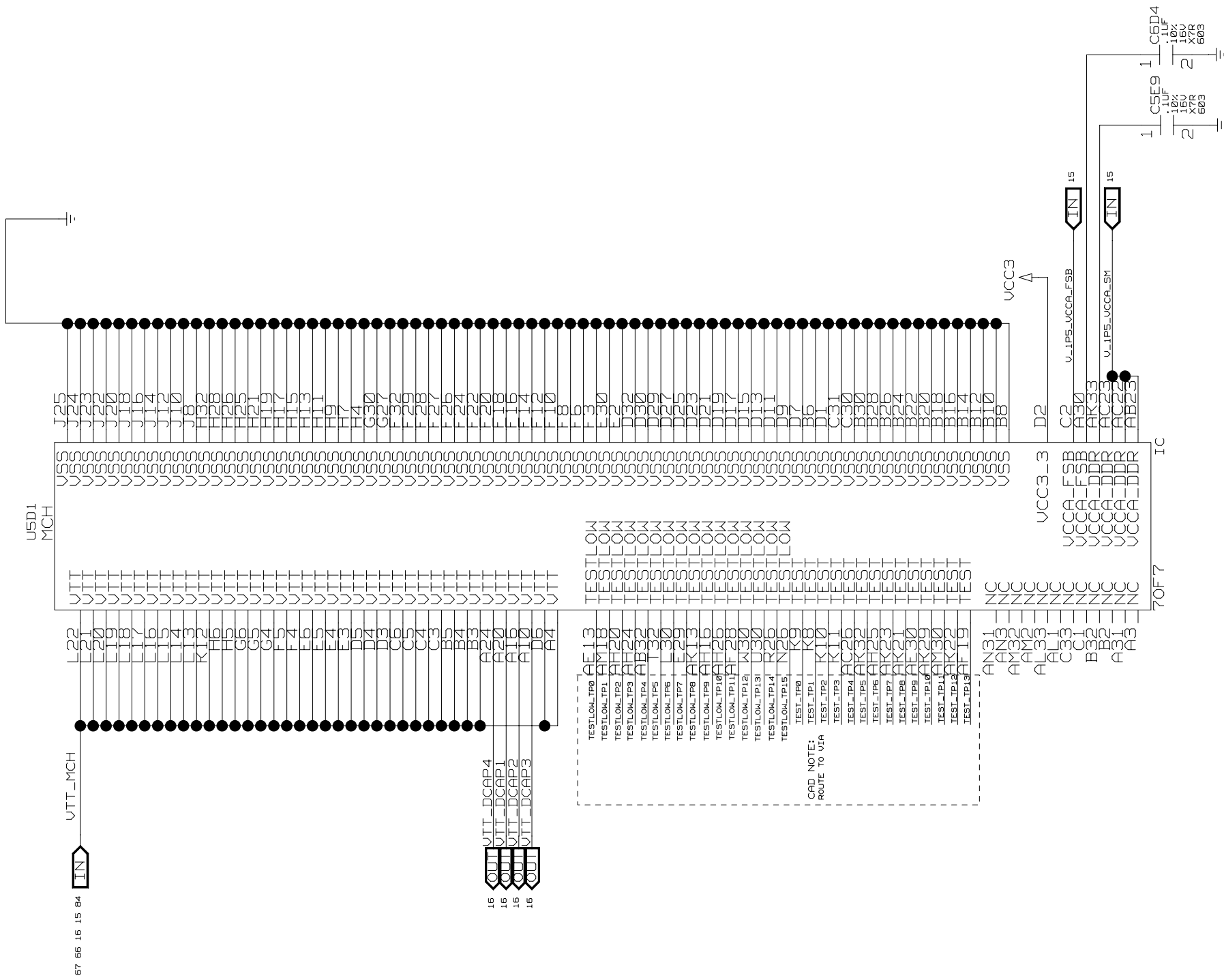
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PAGE TITLE:

MCH:CHIPSET 4 OF 6

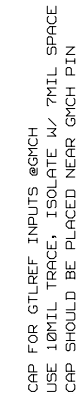
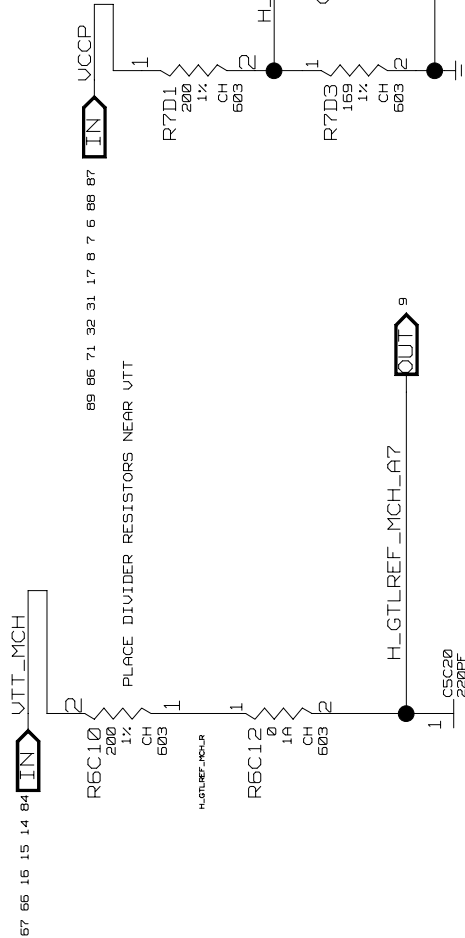
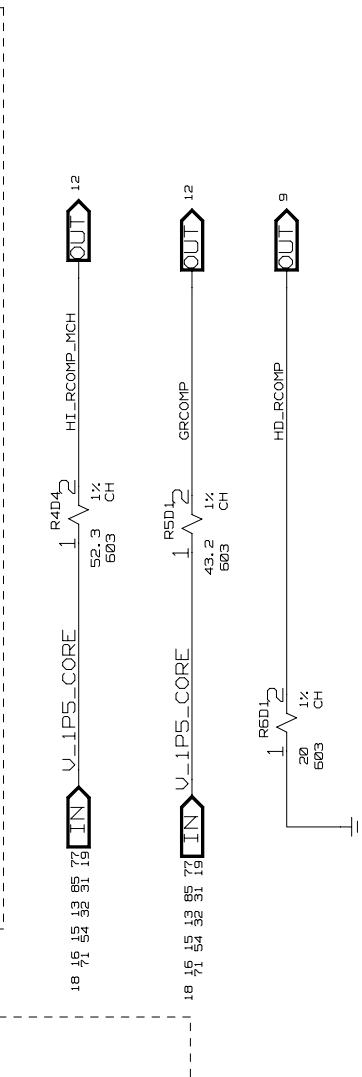
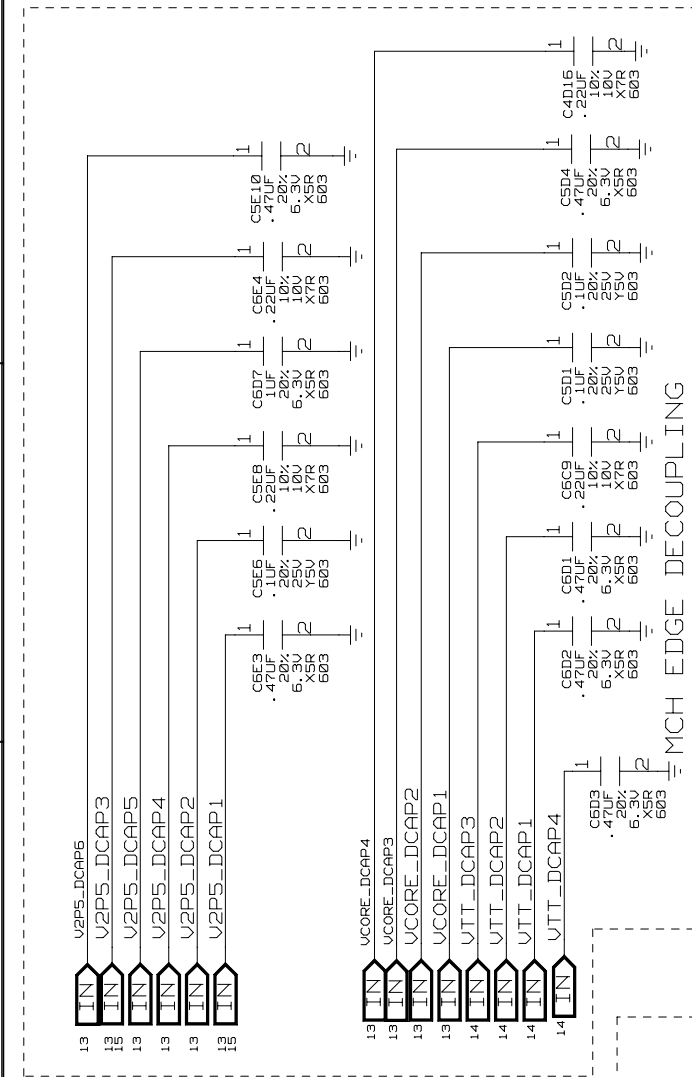
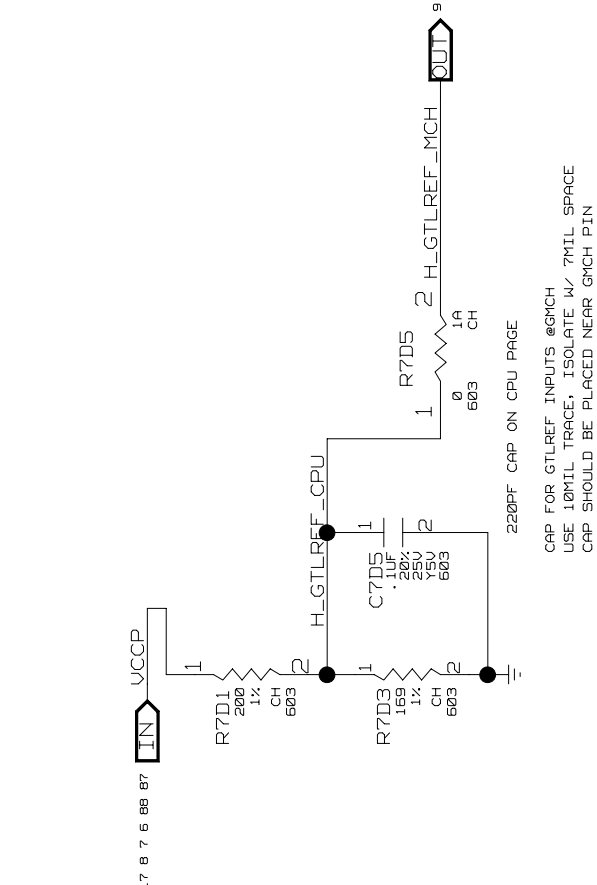
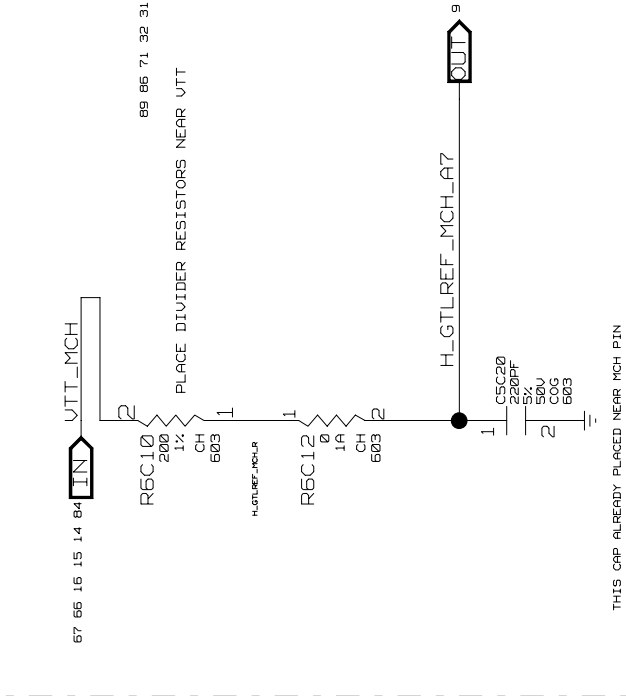
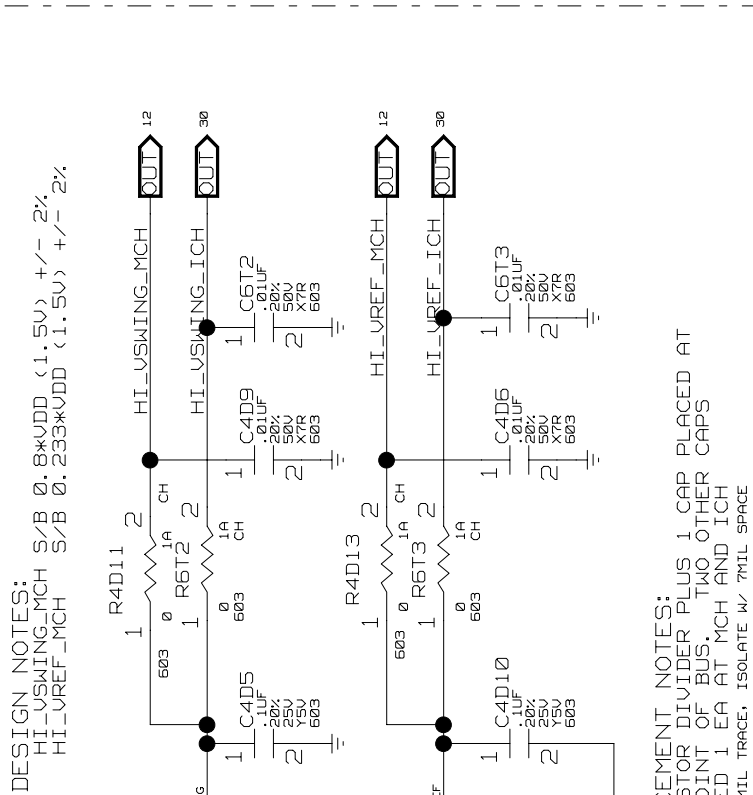
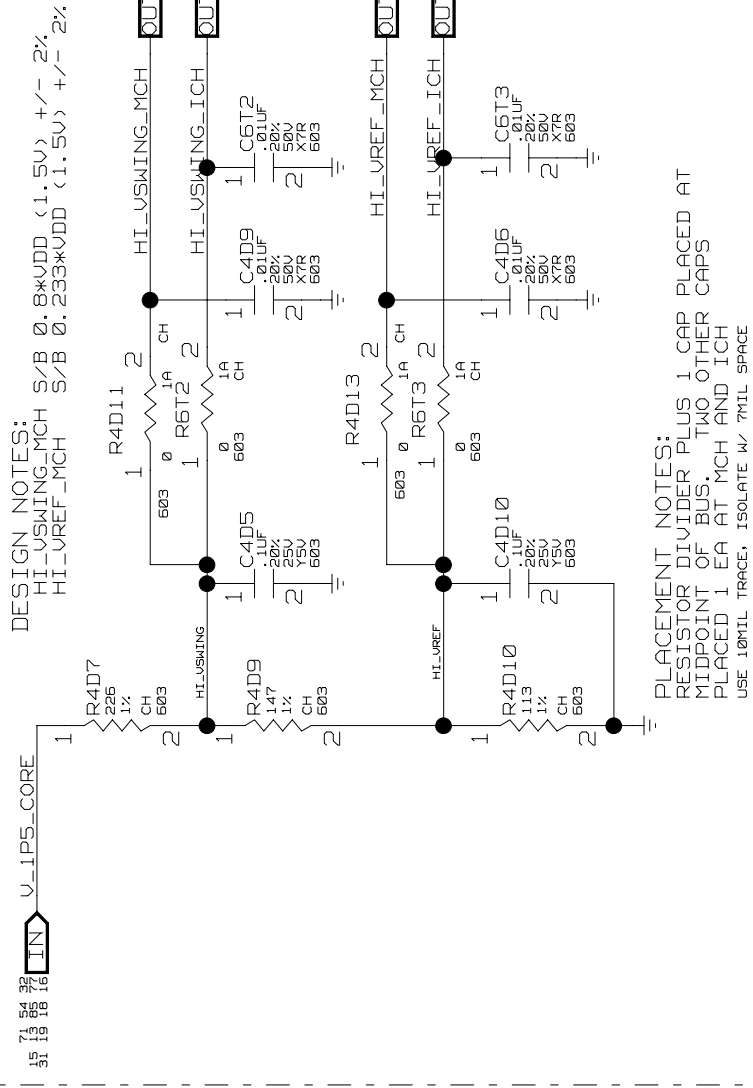
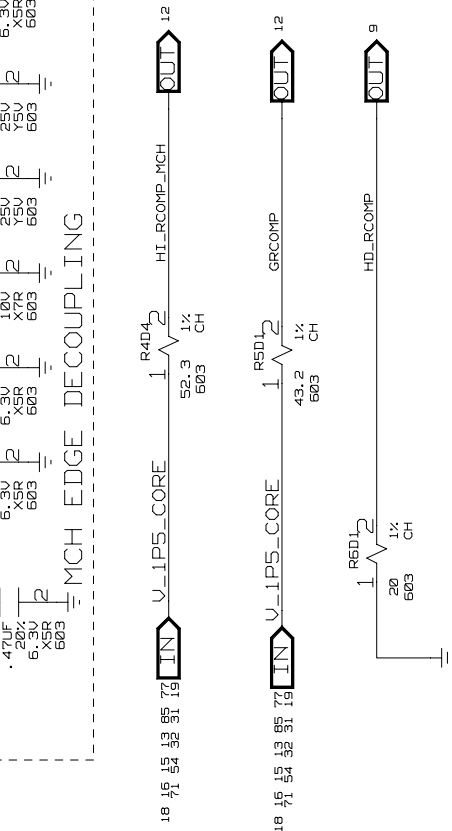
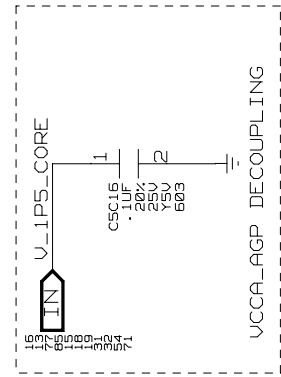
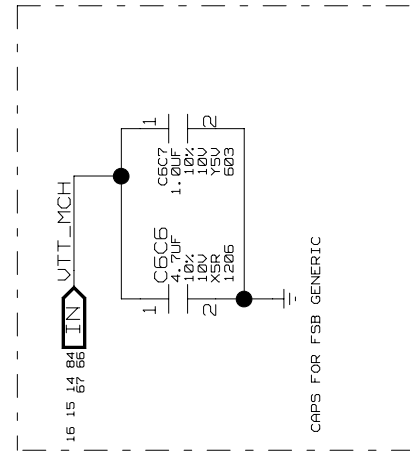
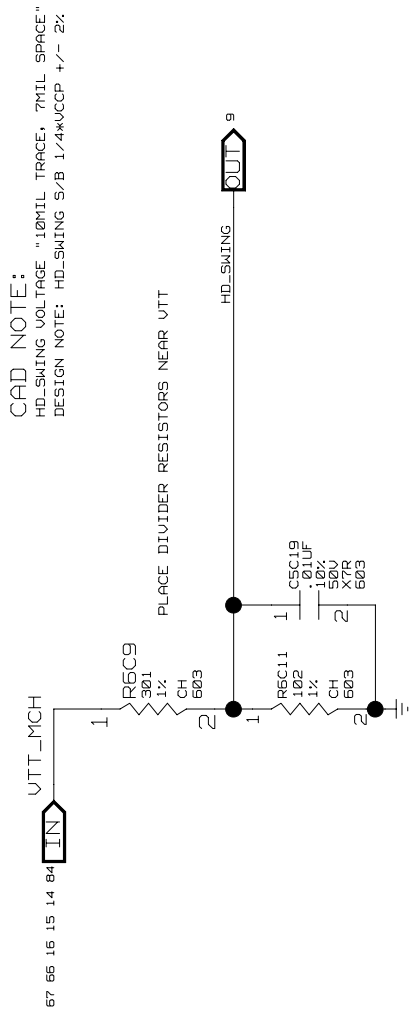
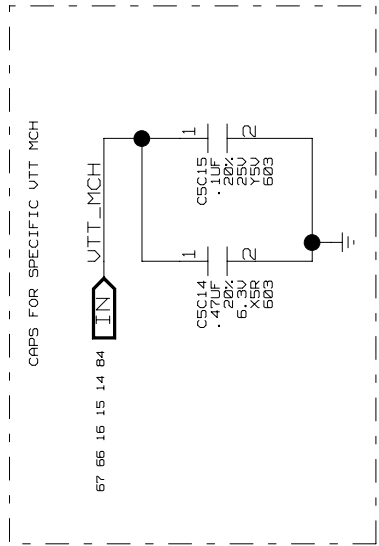
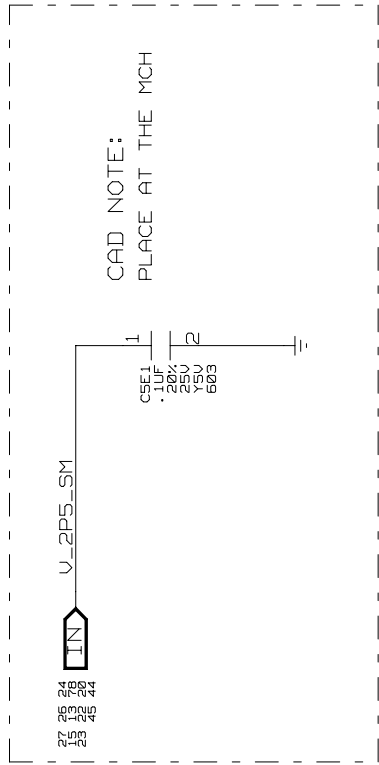
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004	SHEET: 12/90
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PAGE TITLE: MCH: CHIPSET 6 OF 6	REV: 1.3
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004
SHEET: 14/90	



SCHMATIC TITLE:
INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD
PAGE TITLE:

MCH DECOUPLING AND COMP

INTEL	1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004	SHEET: 16/90
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Wed Feb 11 18:11:51 2004

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INTEL(R) 8086

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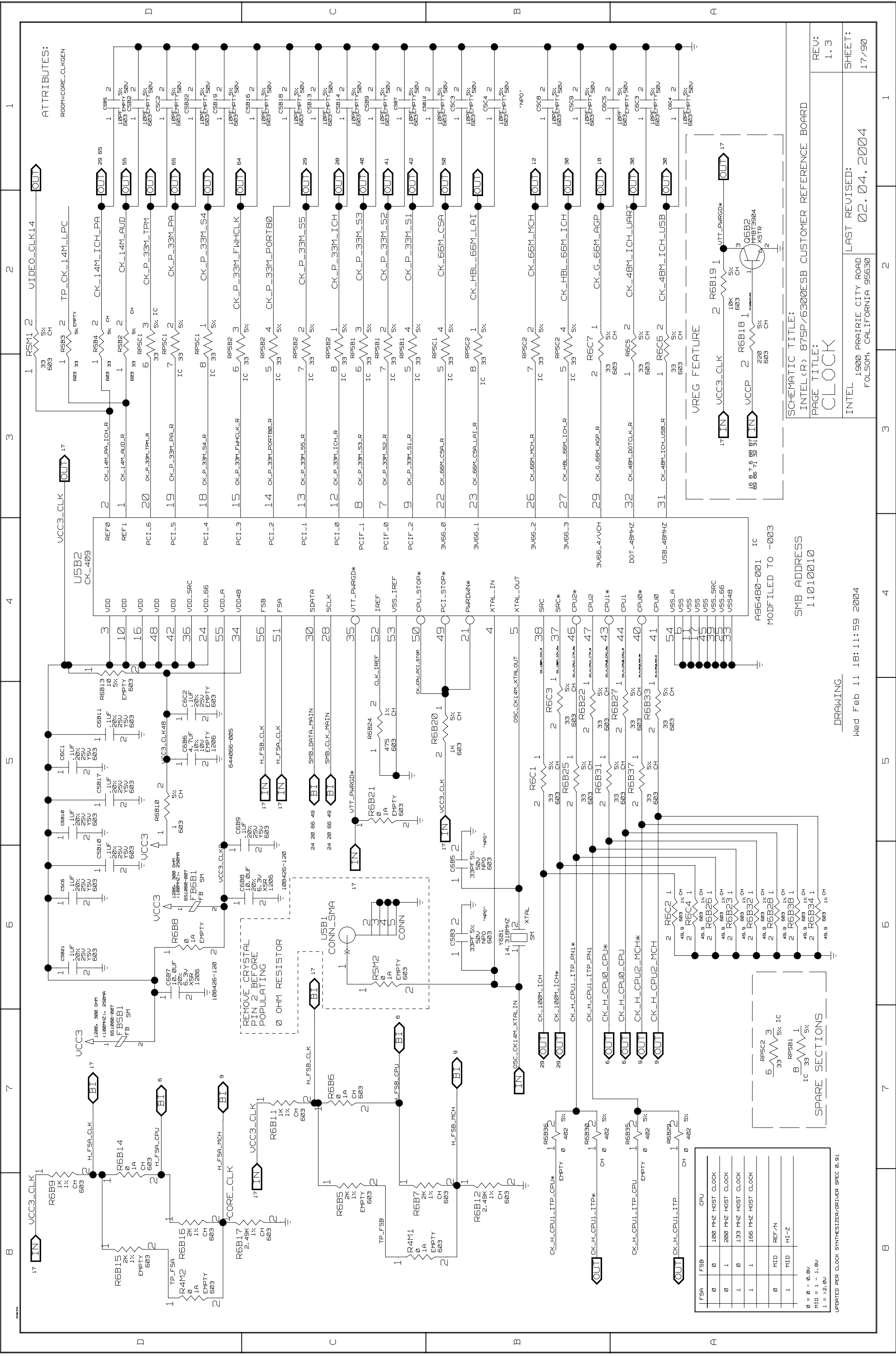
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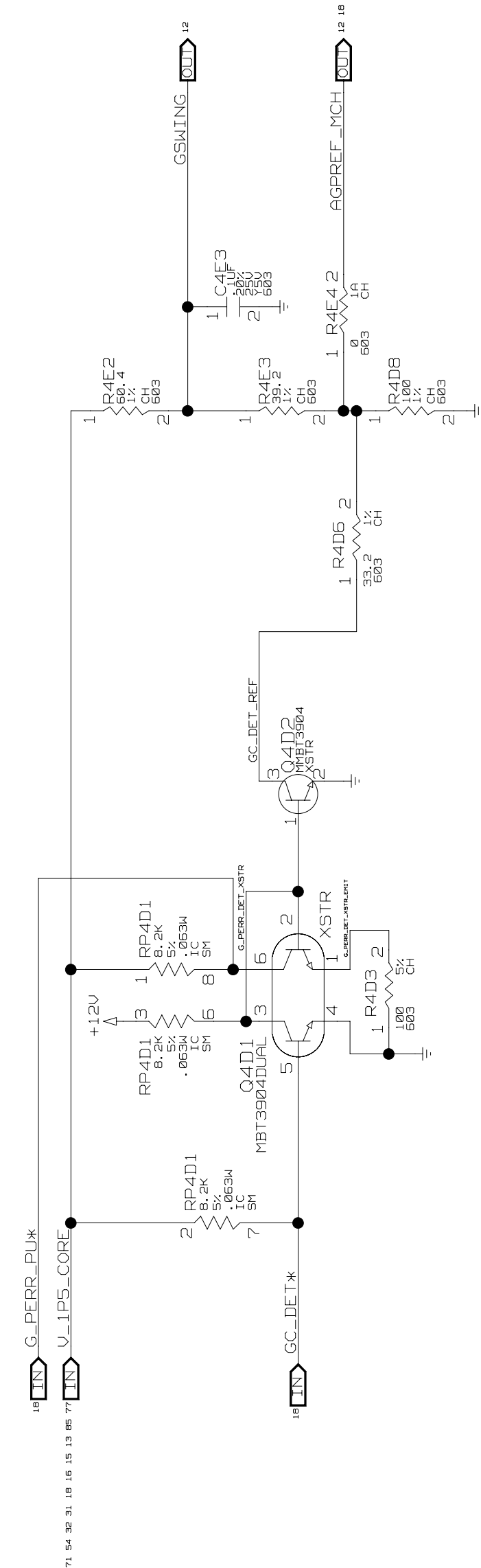
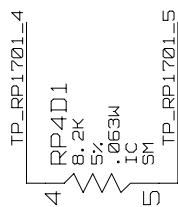
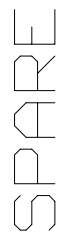
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15/90

16/90

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REF:

1.3

INTEL

1500 WHITE CIRCLE RD
FOLSOM, CALIFORNIA 95630

LAST REVISED:

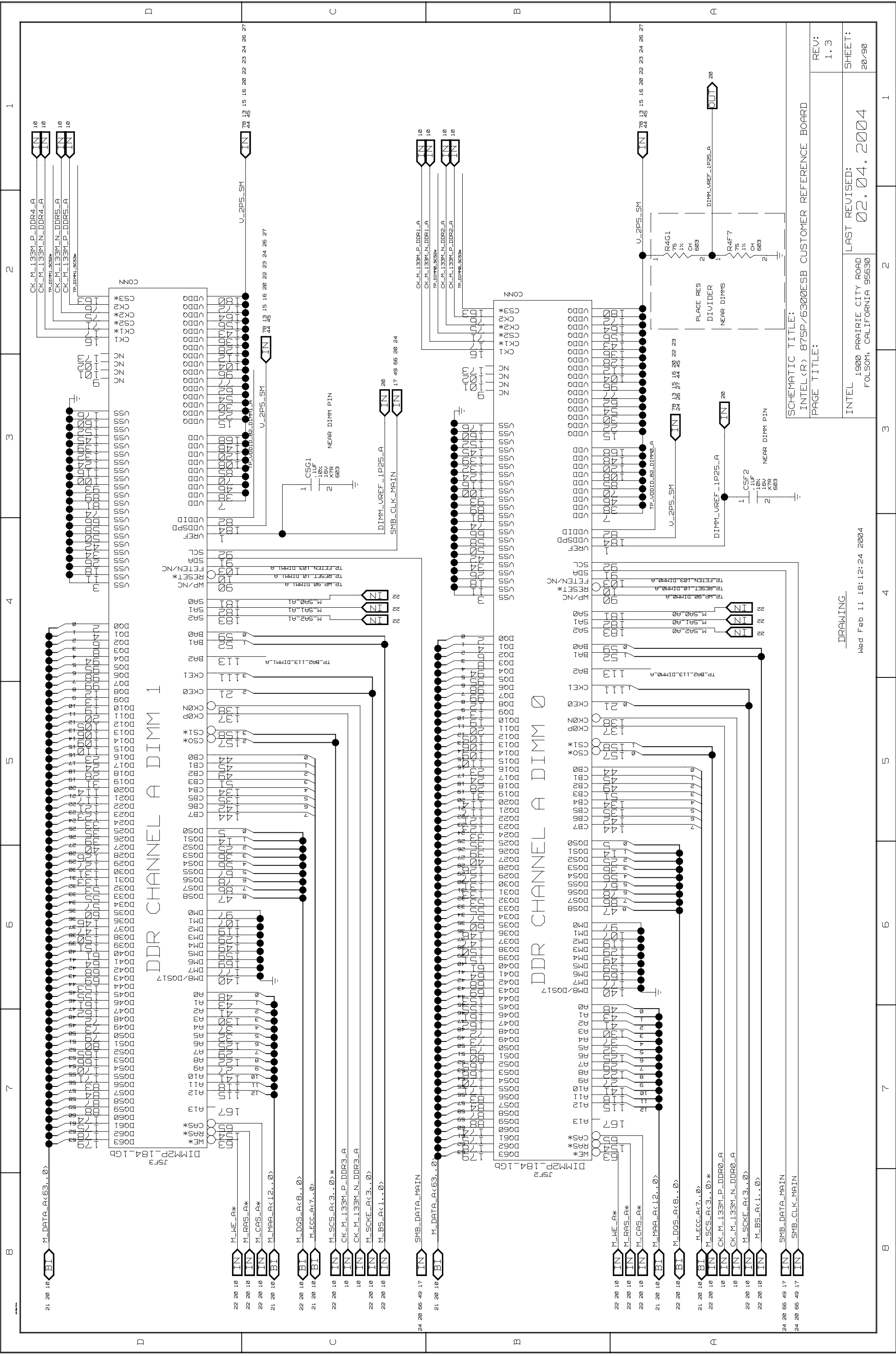
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SHEET: 133HS

19/90

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Wed Feb 11 18:12:24 2004

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1900 PRAIRIE CITY ROAD
FOLSOM, CALIFORNIA 95630

LAST REVISED:

02.04.2004

SHEET:

20/90

REV:

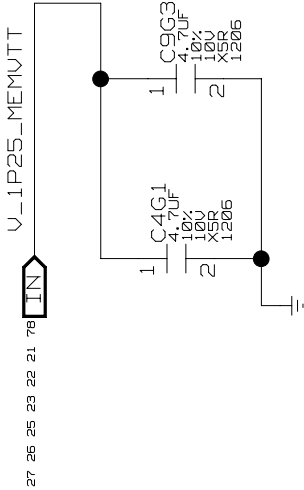
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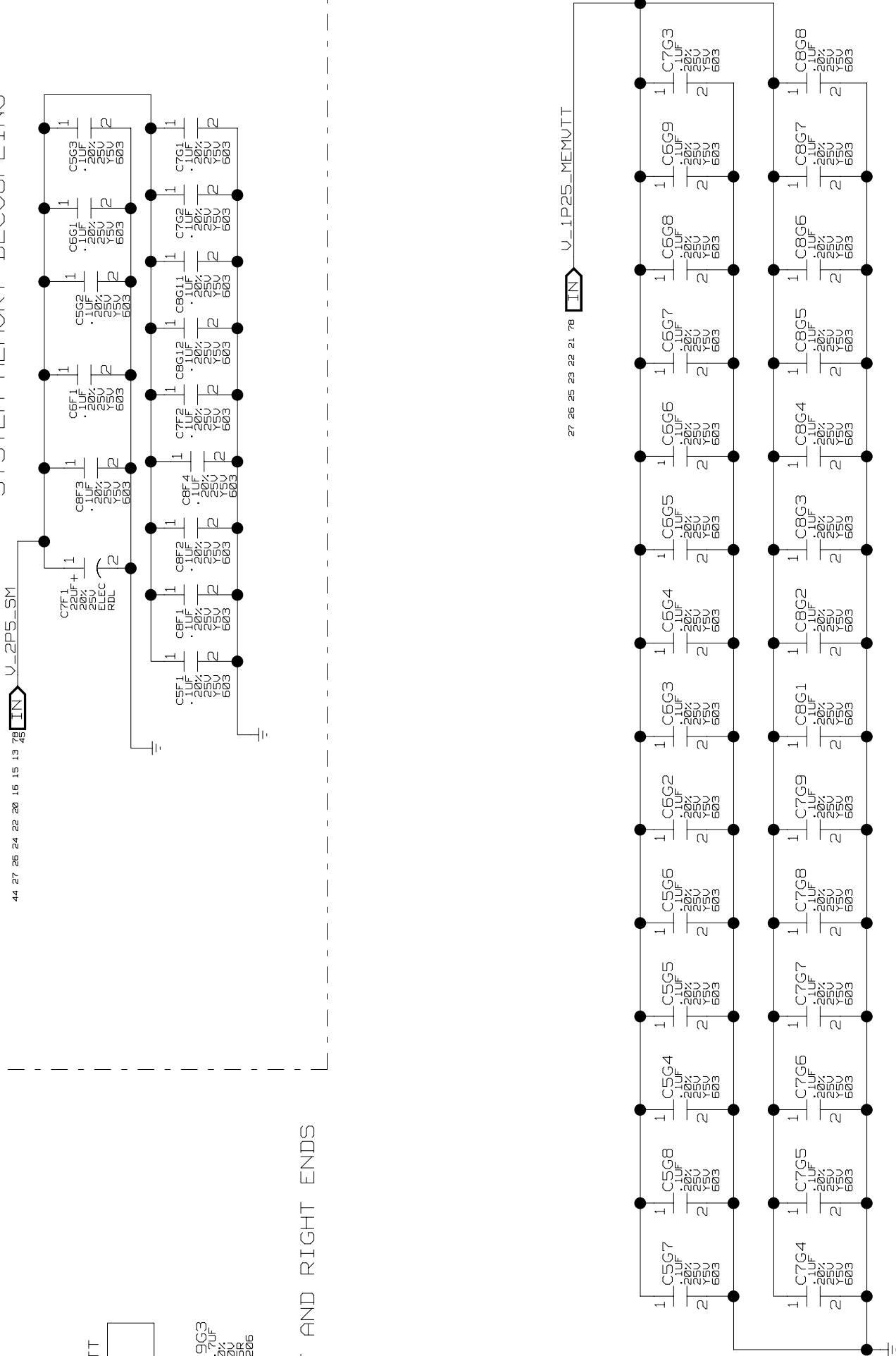
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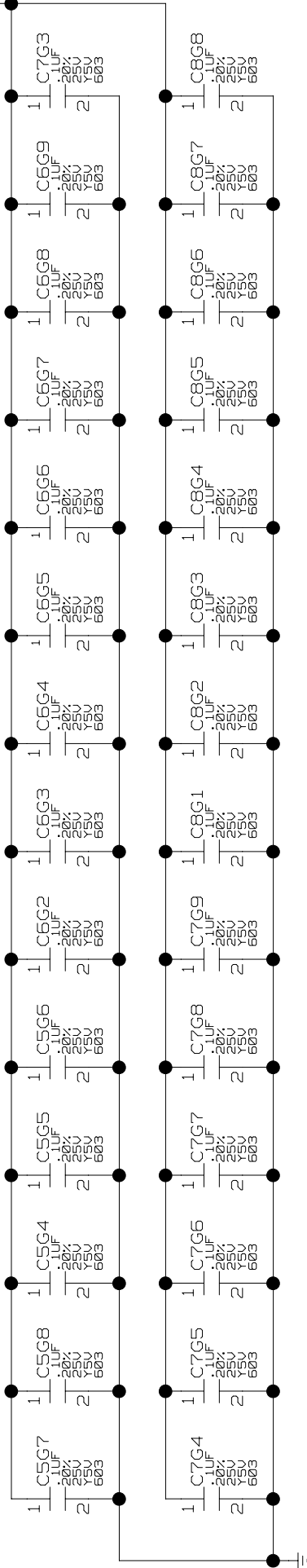


PLACED AT LEFT AND RIGHT ENDS
OF VTT ISLAND

SYSTEM MEMORY DECOUPLING

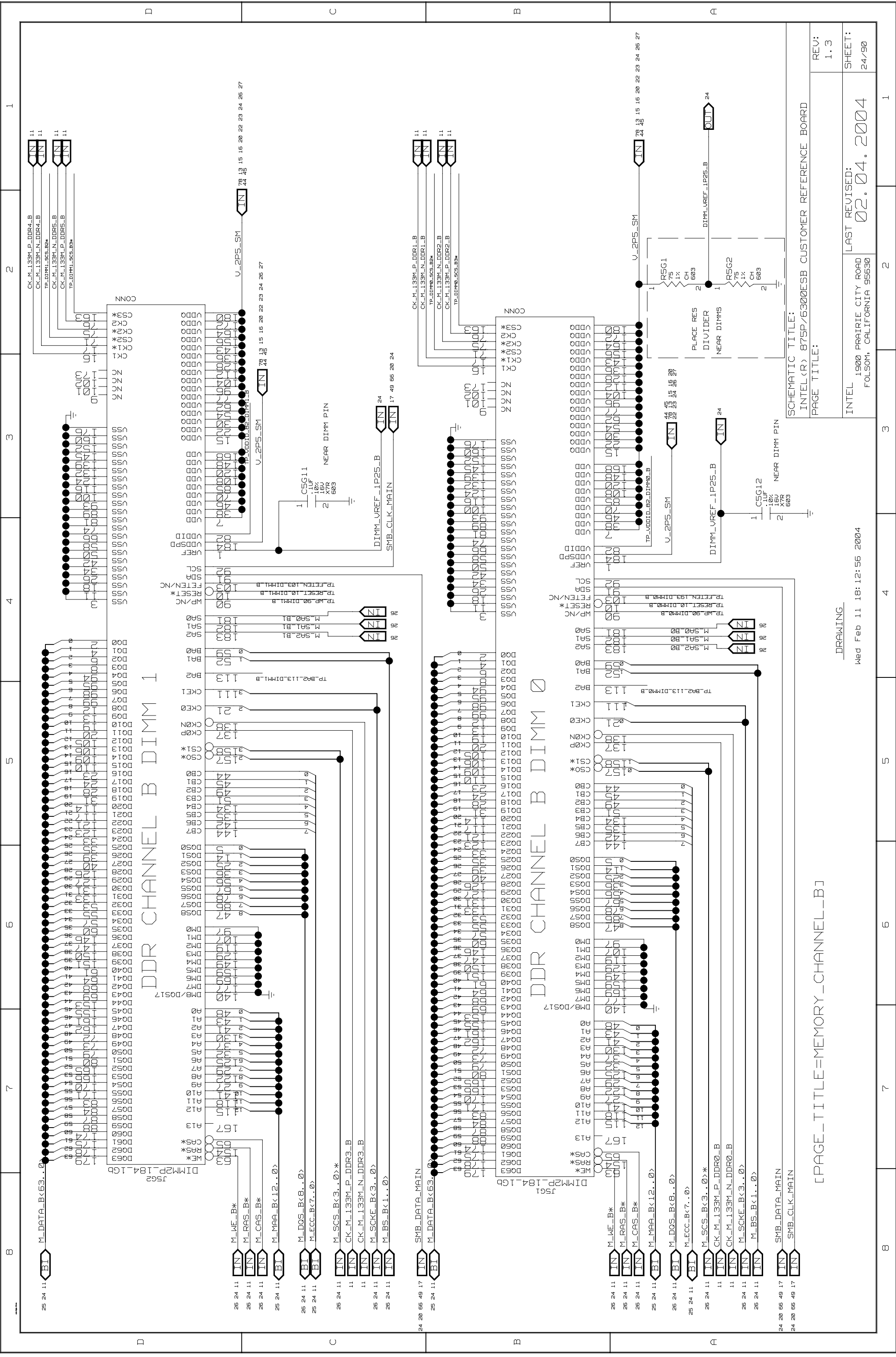


DECOUPLING CAPACITORS FOR DDR TERMINATION RESISTORS



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PAGE TITLE:		DDR CHAN A VTERM DECOUPLING		1.3	
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1900 PRAIRIE CITY ROAD		02.04.2004		23/90	
FOLSOM, CALIFORNIA 95630					

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Wed Feb 11 18:12:48 2004



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Wed Feb 11 18:12:56 2004

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REV:
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LAST REVISED:
02.04.2004

INTEL
1900 PRAIRIE CITY ROAD
FOLSOM, CALIFORNIA 95630

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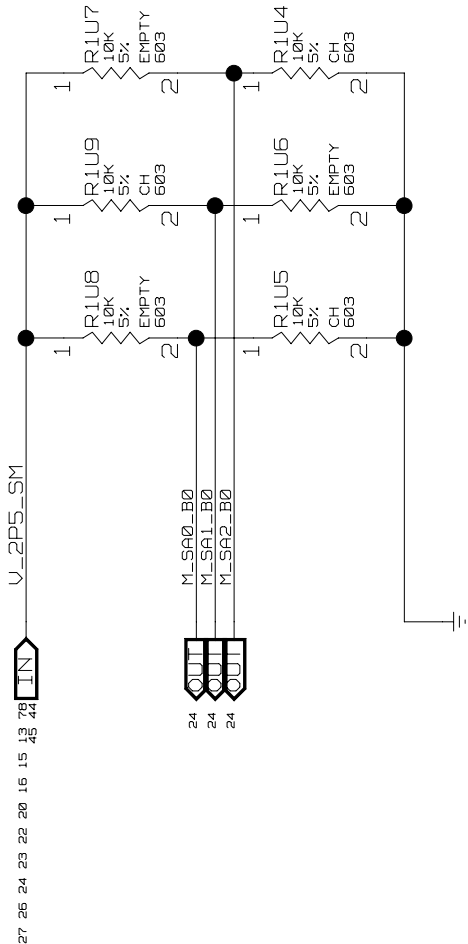
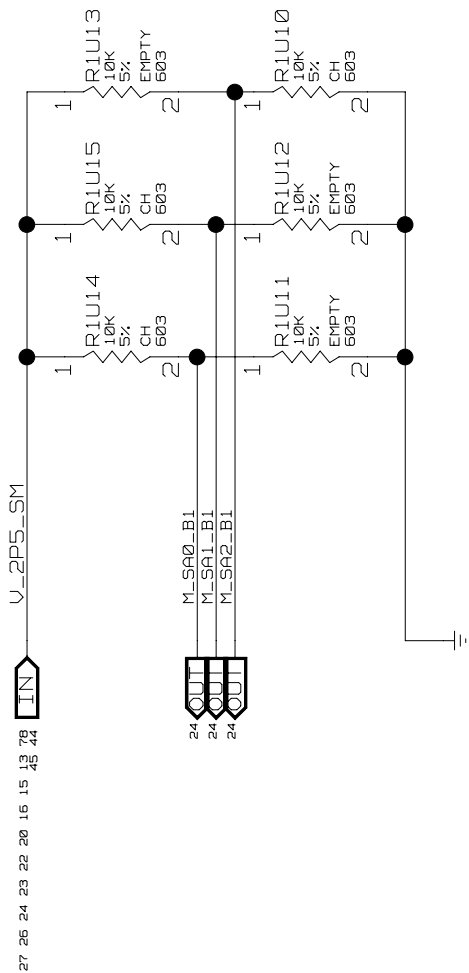
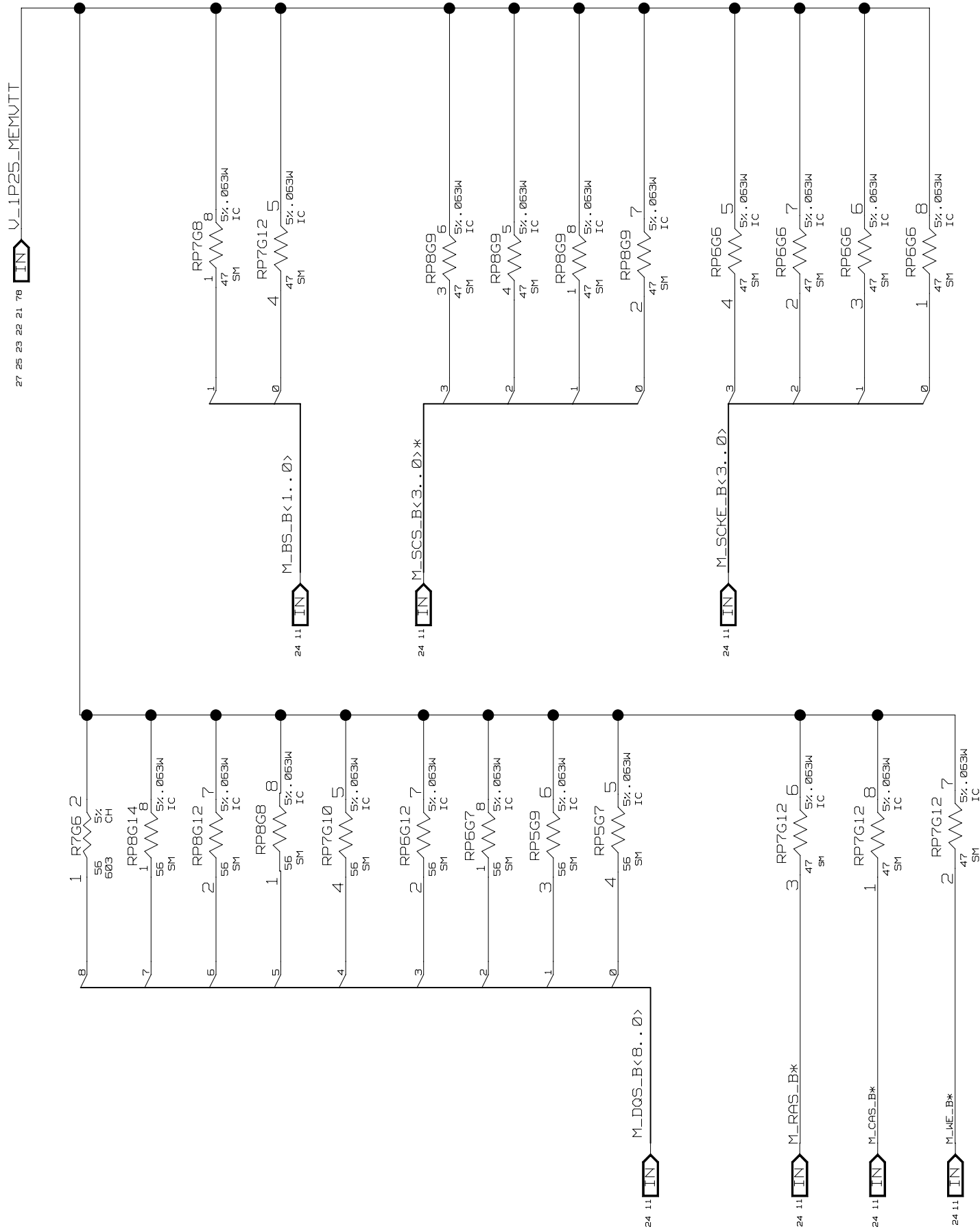
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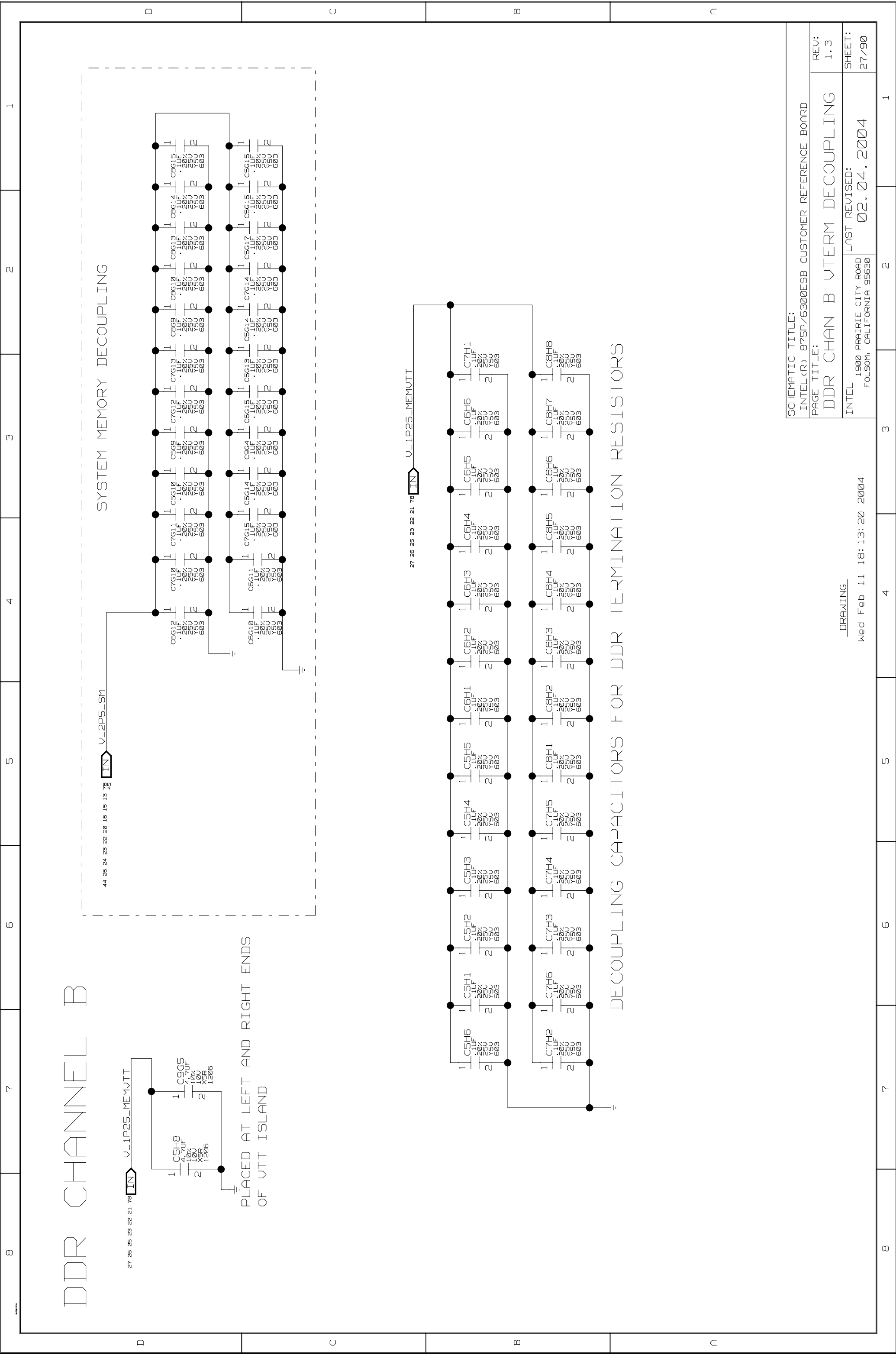
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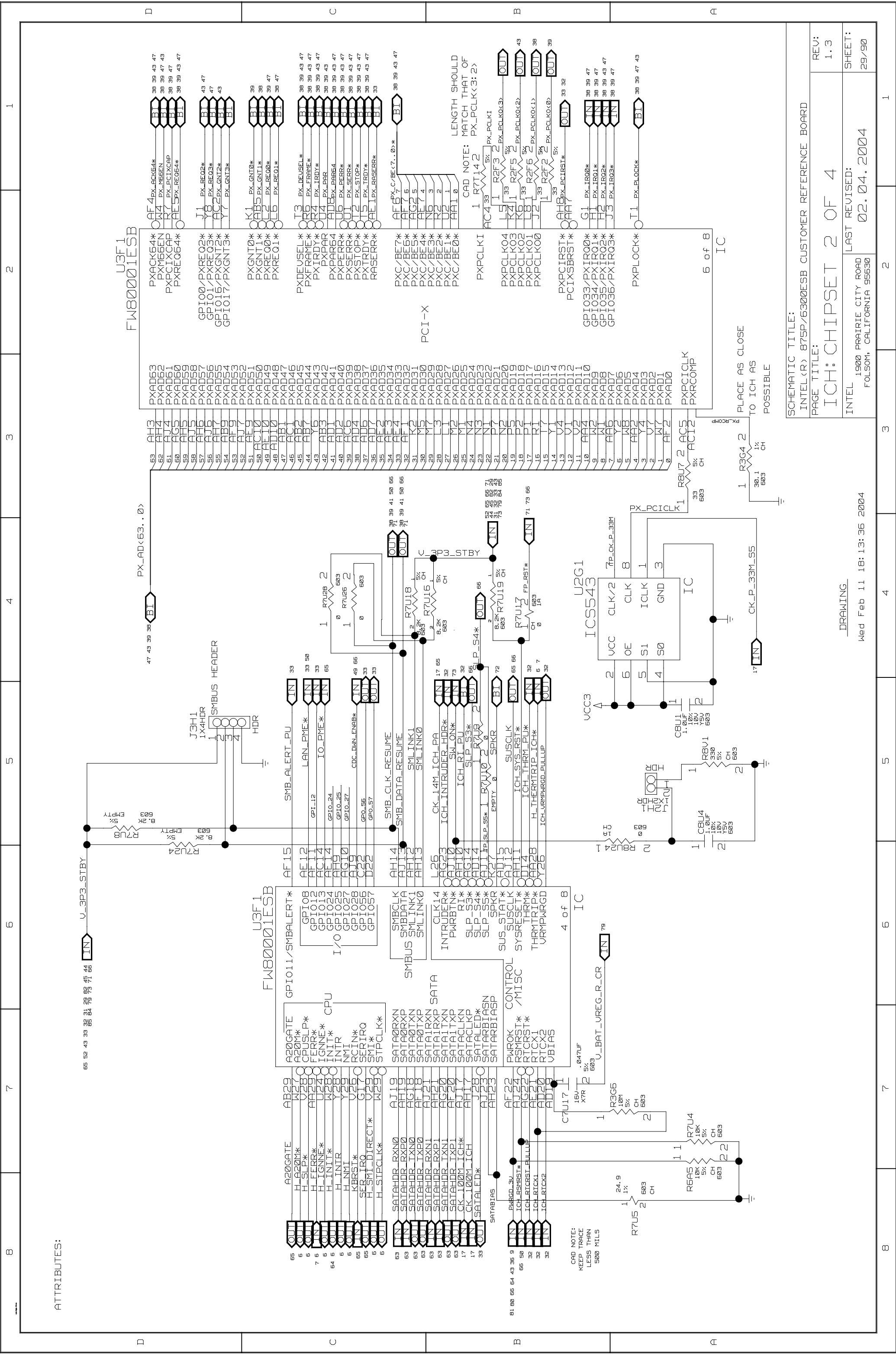
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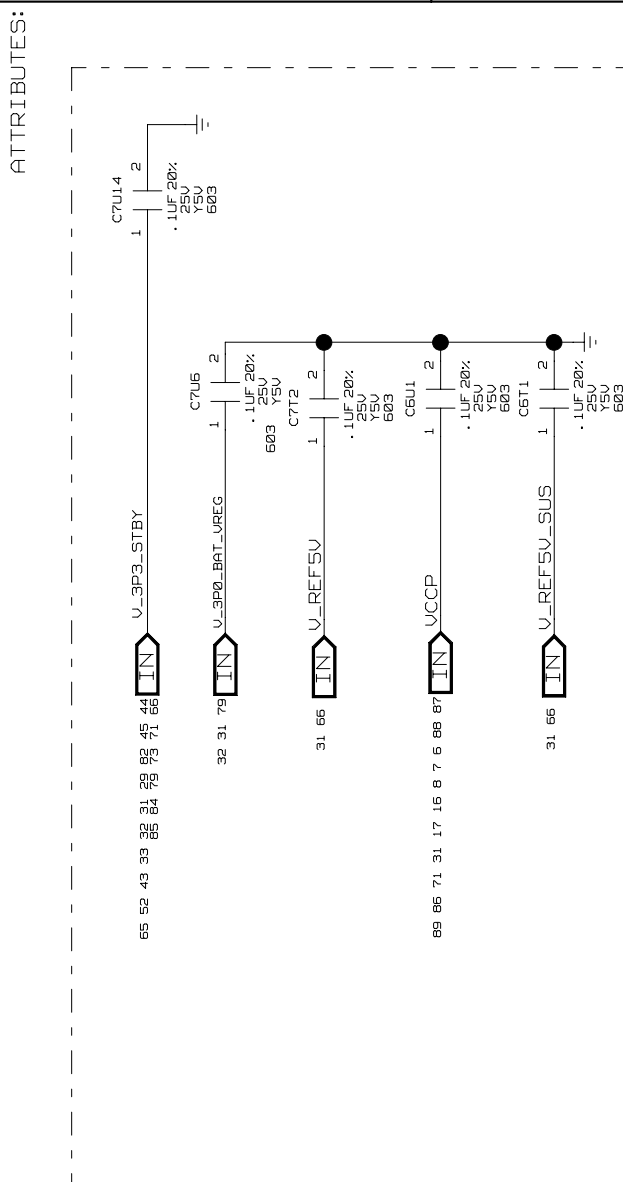
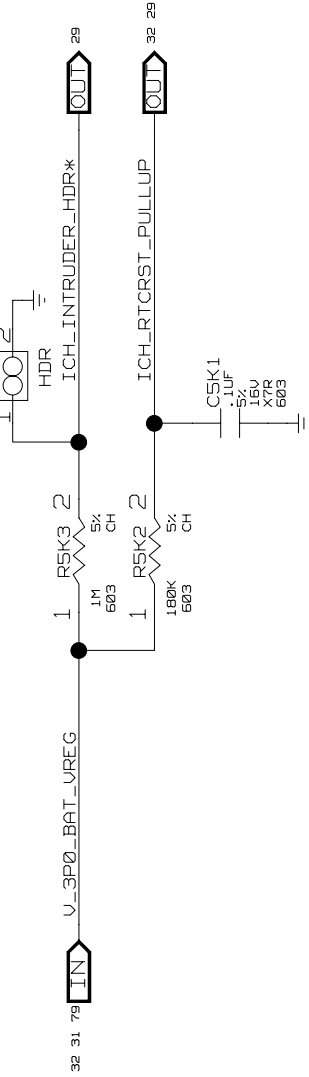
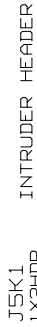
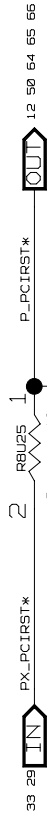
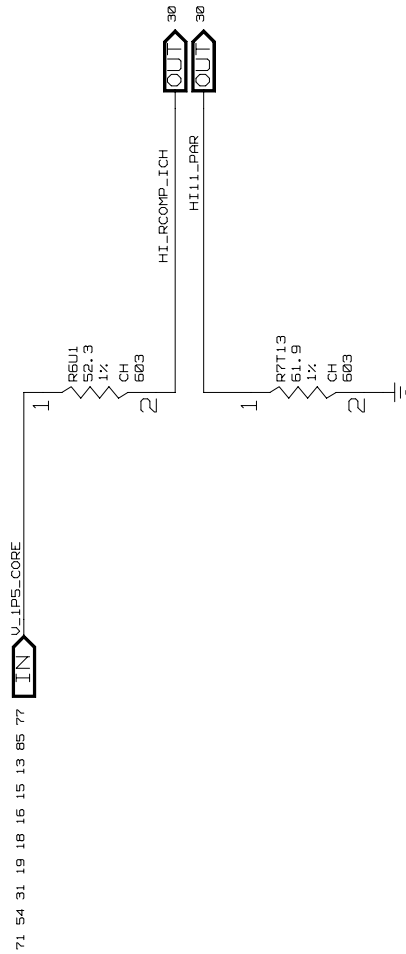
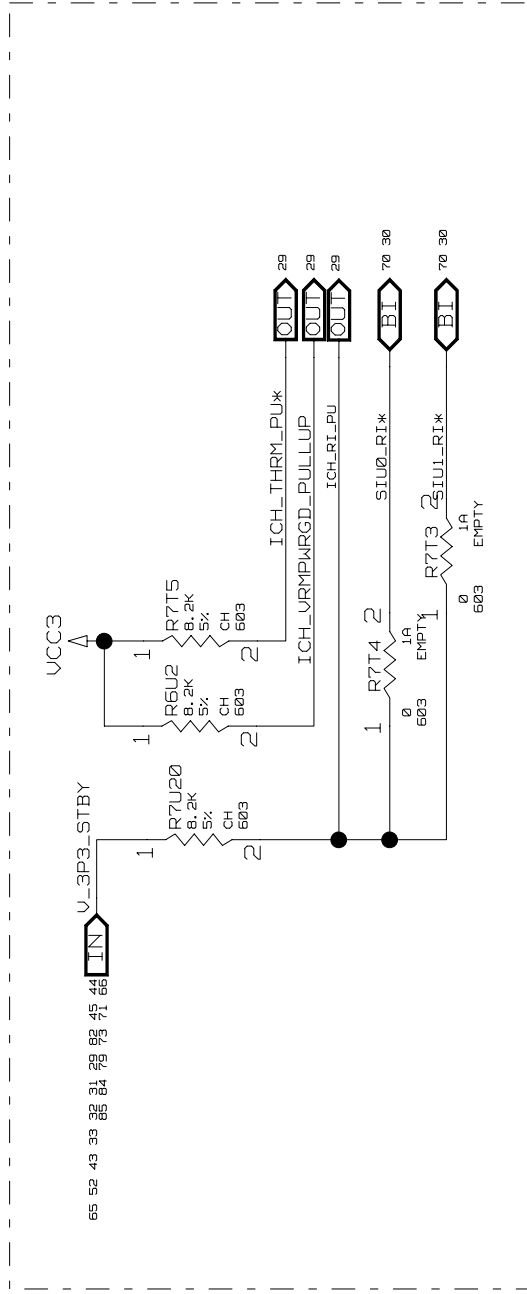


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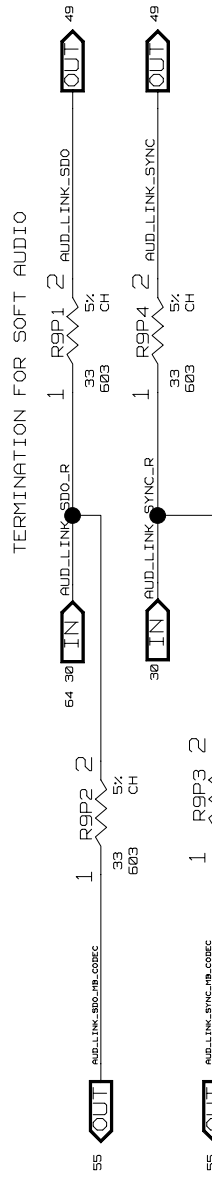
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1900 PRAIRIE CITY ROAD		02.04.2004			
FOLSOM, CALIFORNIA 95630					

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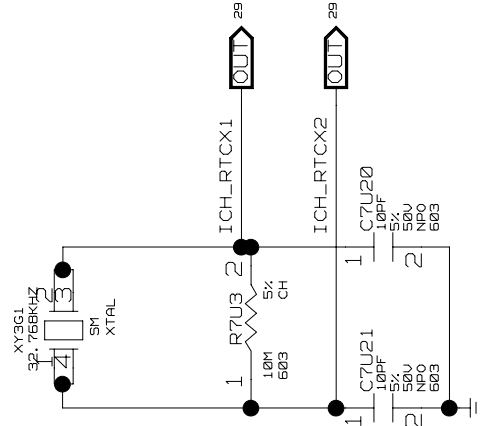
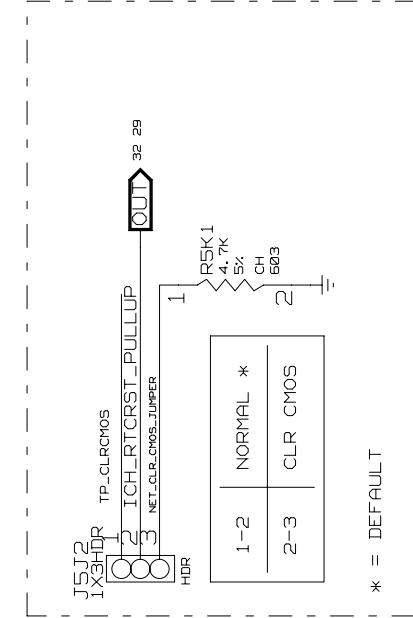
Wed Feb 11 18:13:36 2004



*NOTE: PLACE ALL WITHIN 40 MILS OF ICH.



CAD NOTE: PLACE CLOSE TO ICH



ATTRIBUTES:

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REV:

ITCH PULLUPS & DECOUPLING

INTEL

1000

SHEET

REVISED:	02.04.2004	SHEET
		32/90

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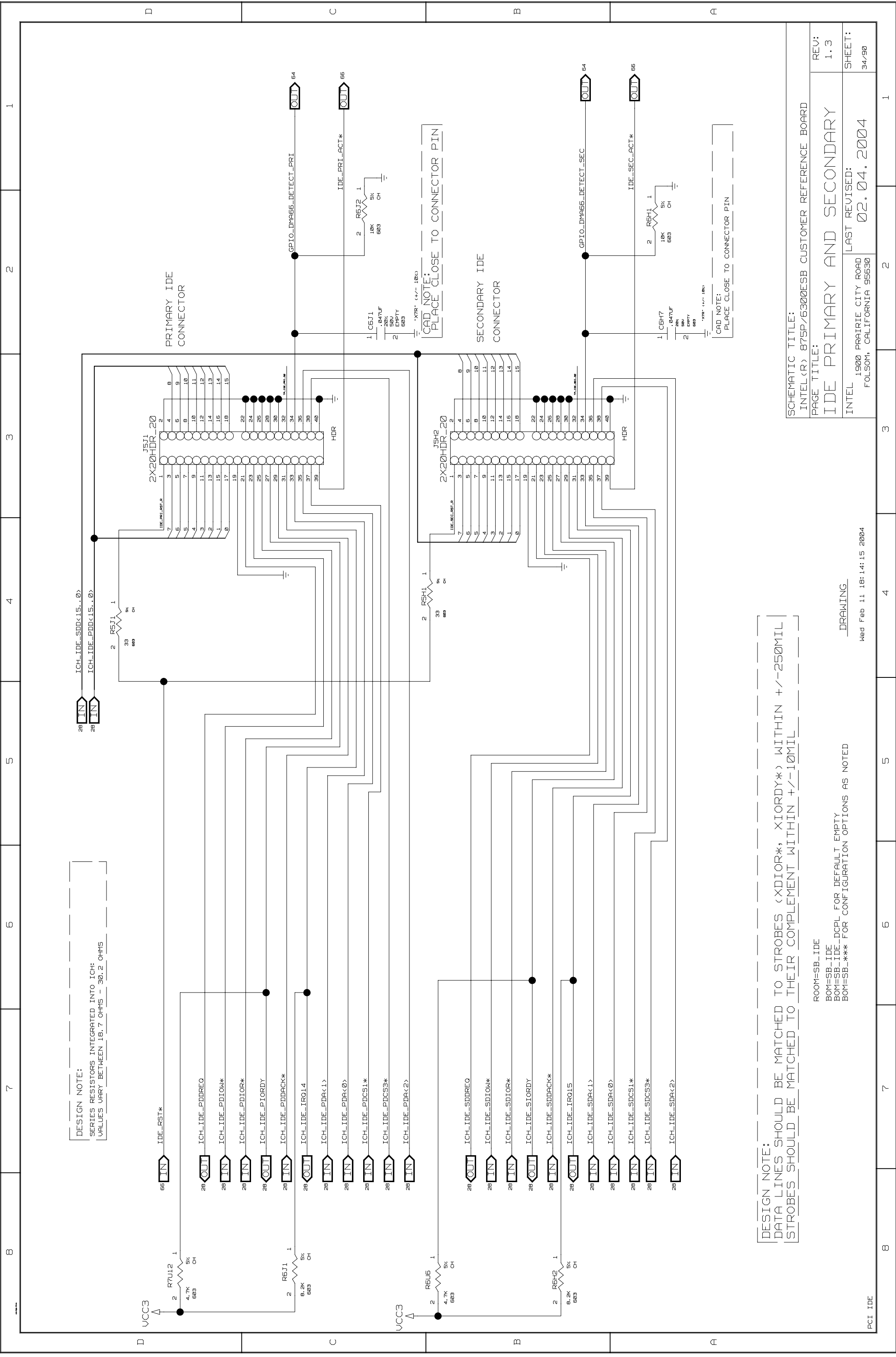
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8		7	6	5	4	3	2	1
D	C	B	A					
USB SWITCH								
USB OPTION FOR FRONT PANEL OR CNR								
<div><div><div>USB_FRONT1_CNR</div><div><div>IN</div><div>30</div></div><div>1 R3E6 2 0 603 1A CH</div><div>USB_FRONT1</div><div><div>OUT</div><div>37</div></div></div><div><div>USB_CNR</div><div><div>OUT</div><div>49</div></div></div></div> <div><div>CAD NOTE:</div><div>BOTH RESISTORS SHOULD SHARE A COMMON PAD FOR PIN 1</div><div>STUFFING OPTION: UNSTUFF R9F9 AND STUFF R9F8 FOR USB CNR</div></div>								
<div><div><div>USB_FRONT1_CNR*</div><div><div>IN</div><div>30</div></div><div>1 R3E5 2 0 603 1A CH</div><div>USB_FRONT1*</div><div><div>OUT</div><div>37</div></div></div><div><div>USB_CNR*</div><div><div>OUT</div><div>49</div></div></div></div> <div><div>CAD NOTE:</div><div>BOTH RESISTORS SHOULD SHARE A COMMON PAD FOR PIN 1</div><div>STUFFING OPTION: UNSTUFF R9F4 AND STUFF R9F5 FOR USB CNR</div></div>								
D	C	B	A					
SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD								
PAGE TITLE: USB OPTION FOR FP								
REV: 1.3								
SHEET: 35/90								
LAST REVISED: 02.04.2004								
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630								

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INTEL(R) 875P/5300ESB Customer Reference Board

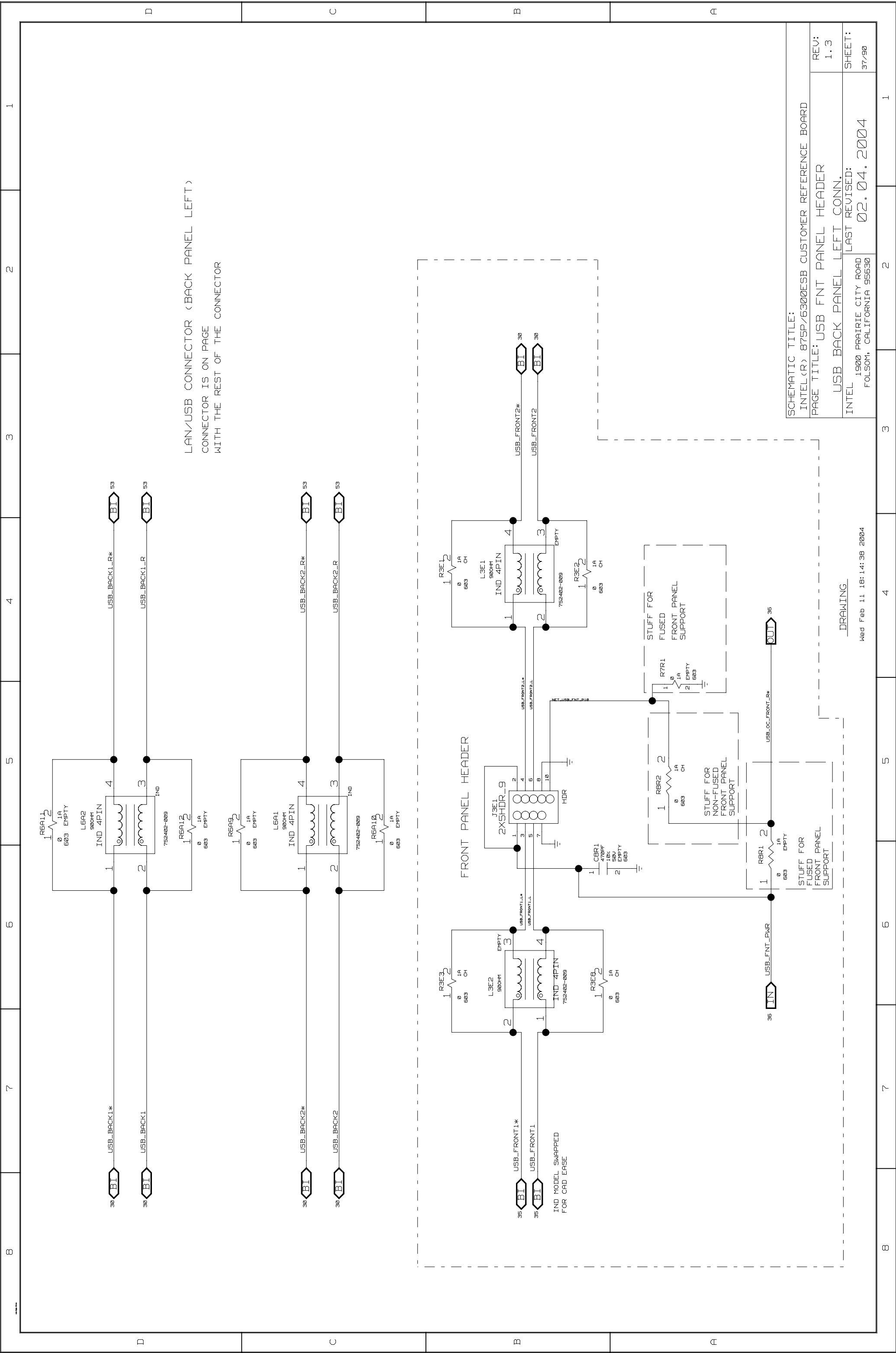
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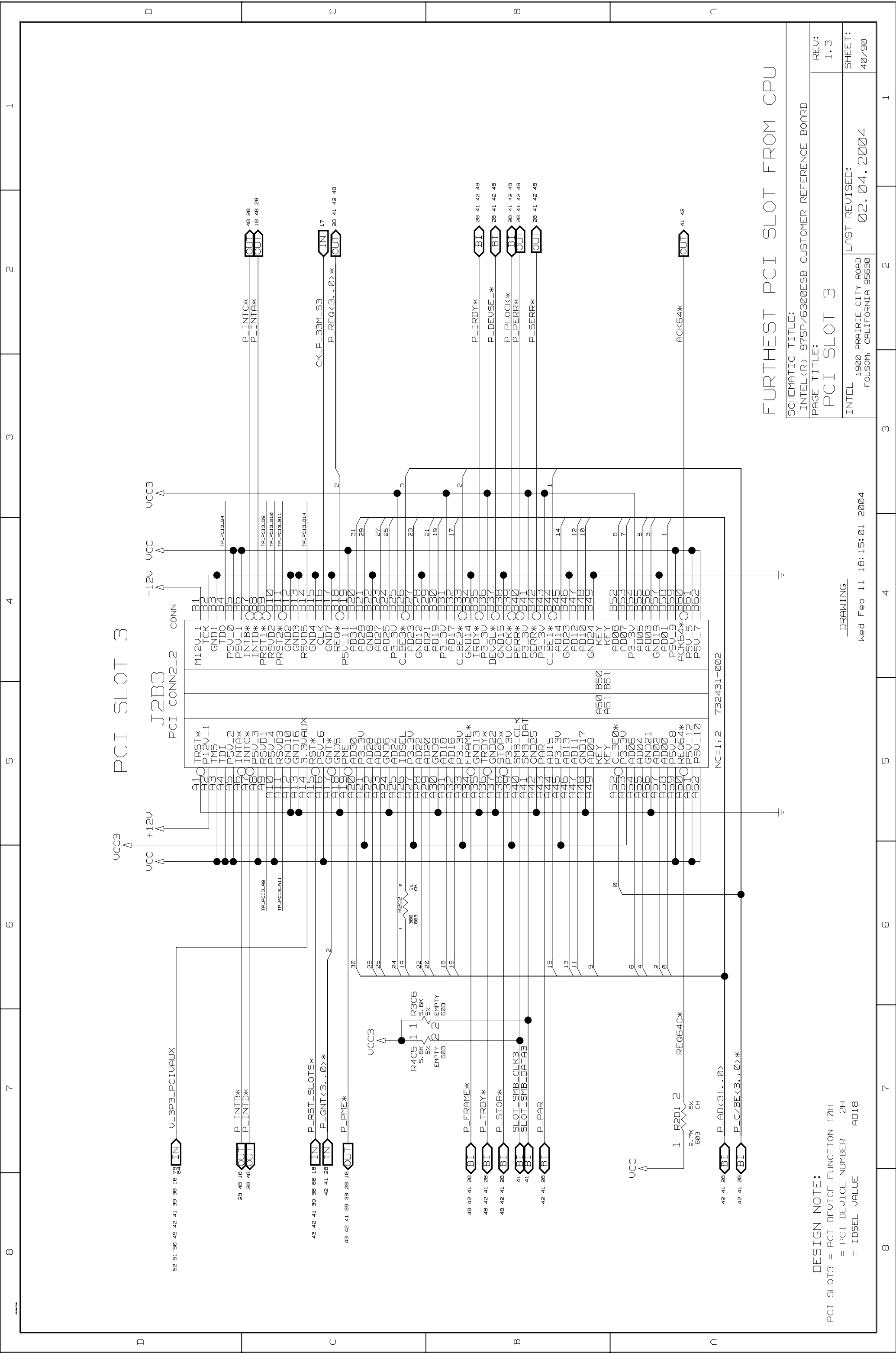
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1.3

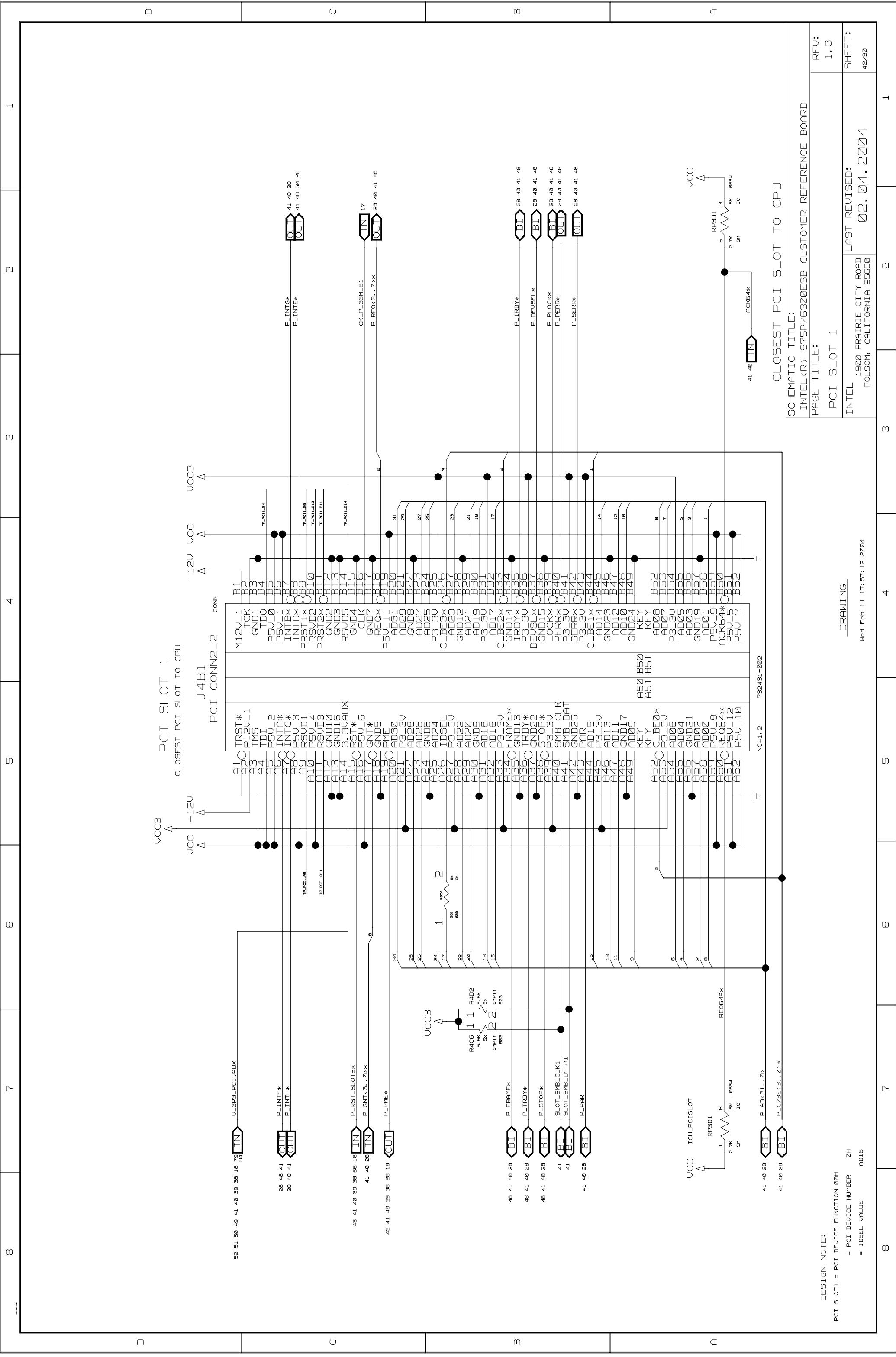
Intel
1900 Prairie City Road
Folsom, California 95630

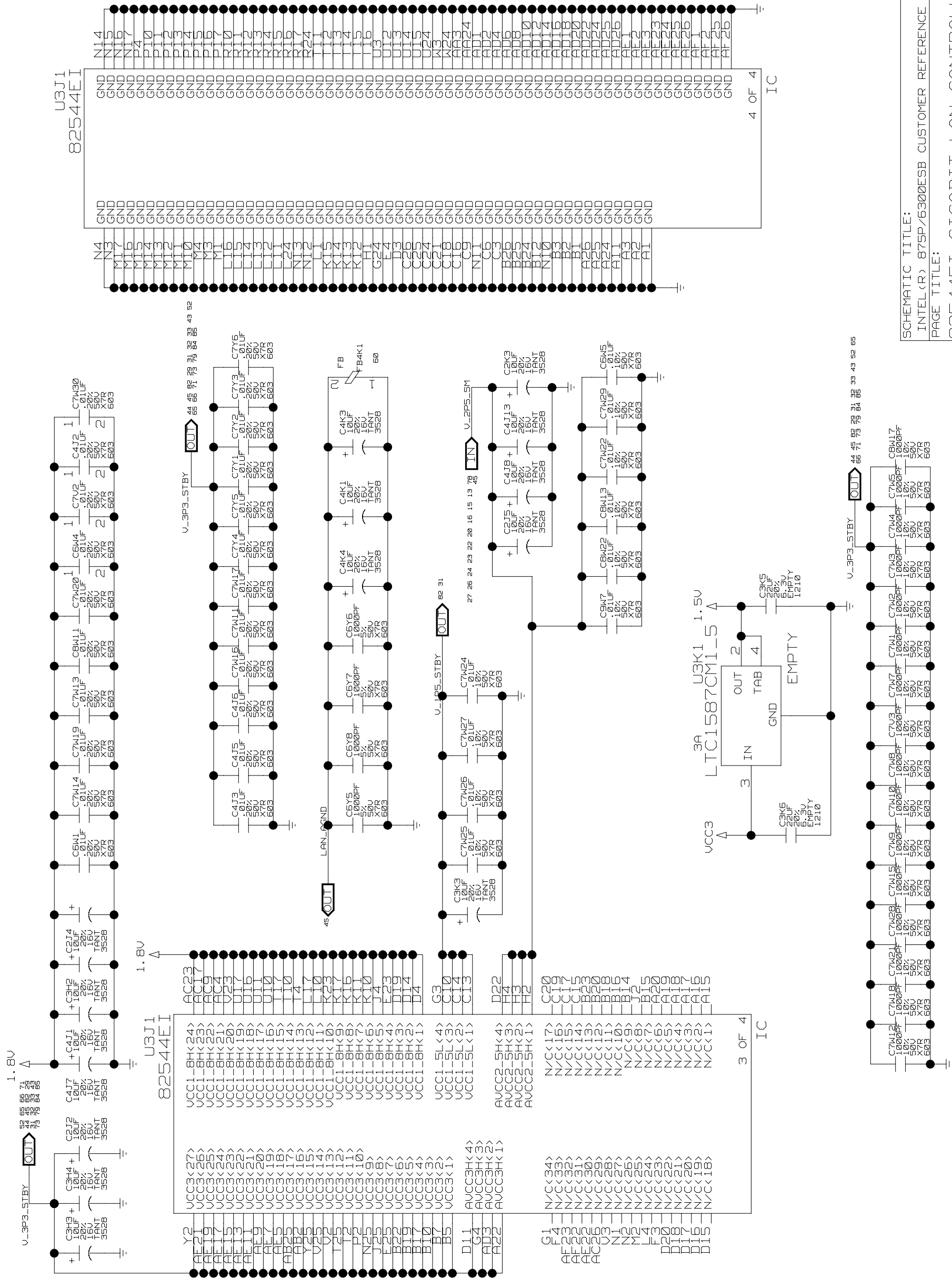
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02.04.2004

Sheet:
35/90









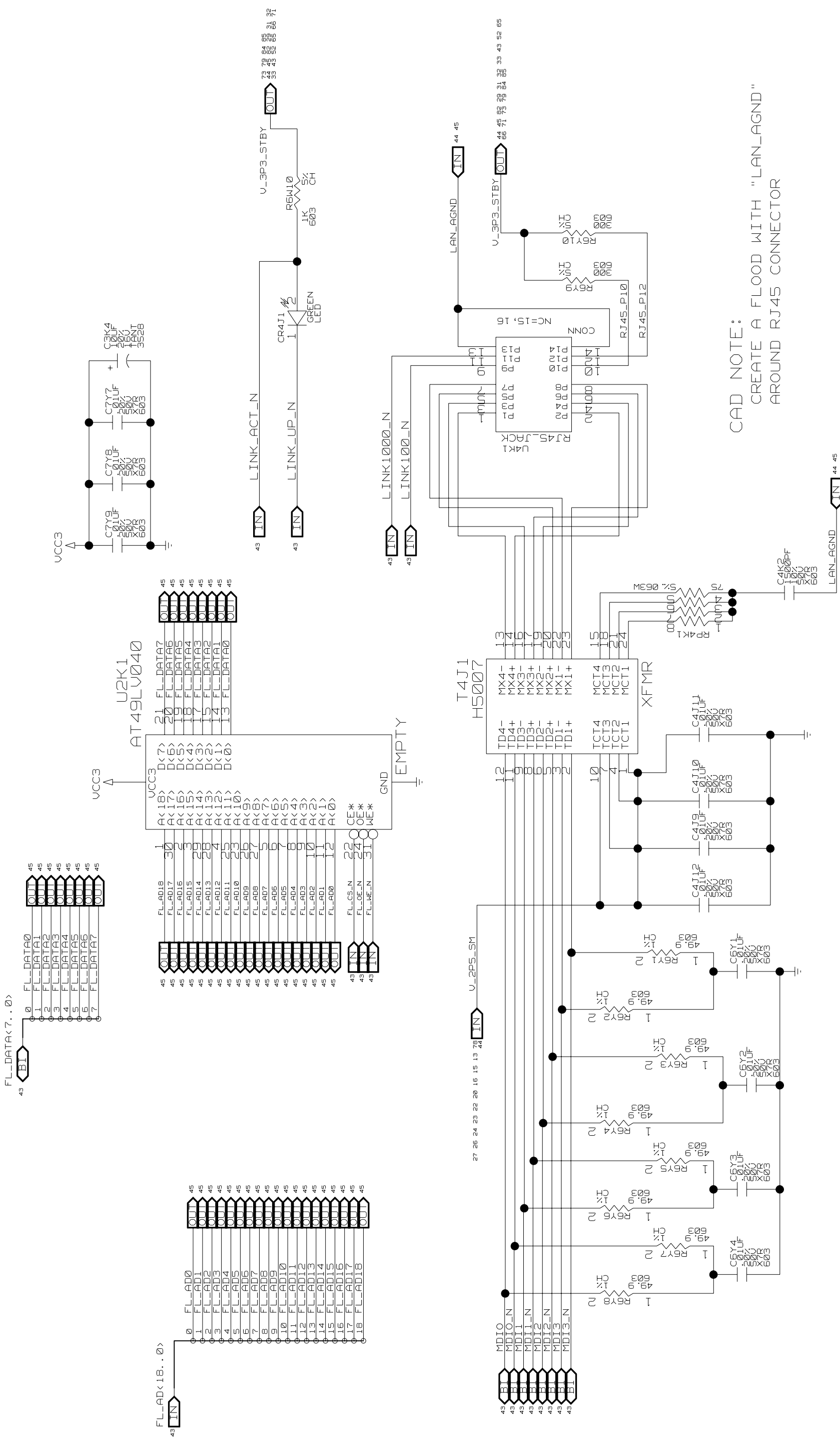
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PAGE TITLE:

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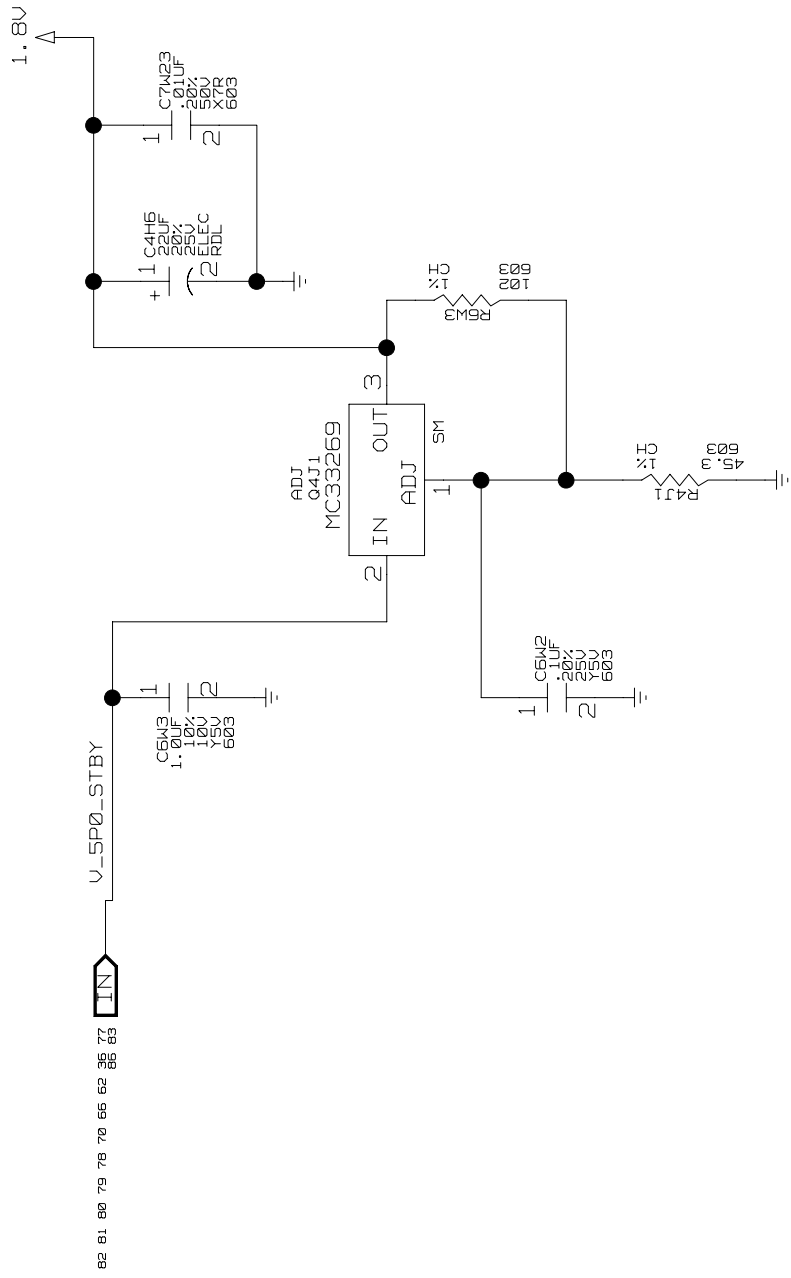
02.04.2004

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CAD NOTE:
CREATE A FLOOD WITH "LAN_AGN2"
AROUND RJ45 CONNECTOR

SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD	LAST REVISED: 02.04.2004
PAGE TITLE: LAN EEPROM, MAGNETICS AND CONNECTIONS	
INTEL	1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630



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INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD

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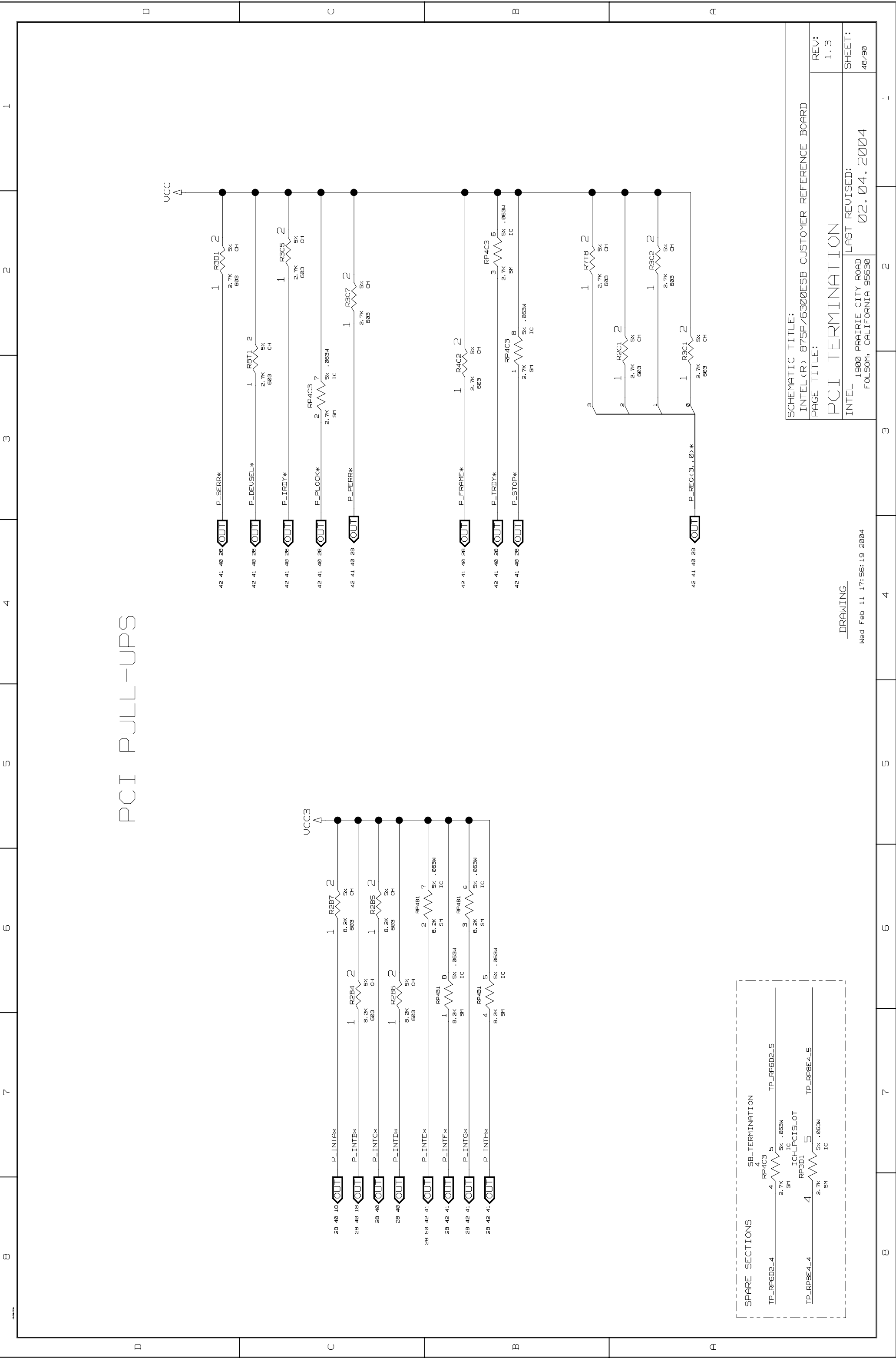
1.87 REF (GBE LAN)

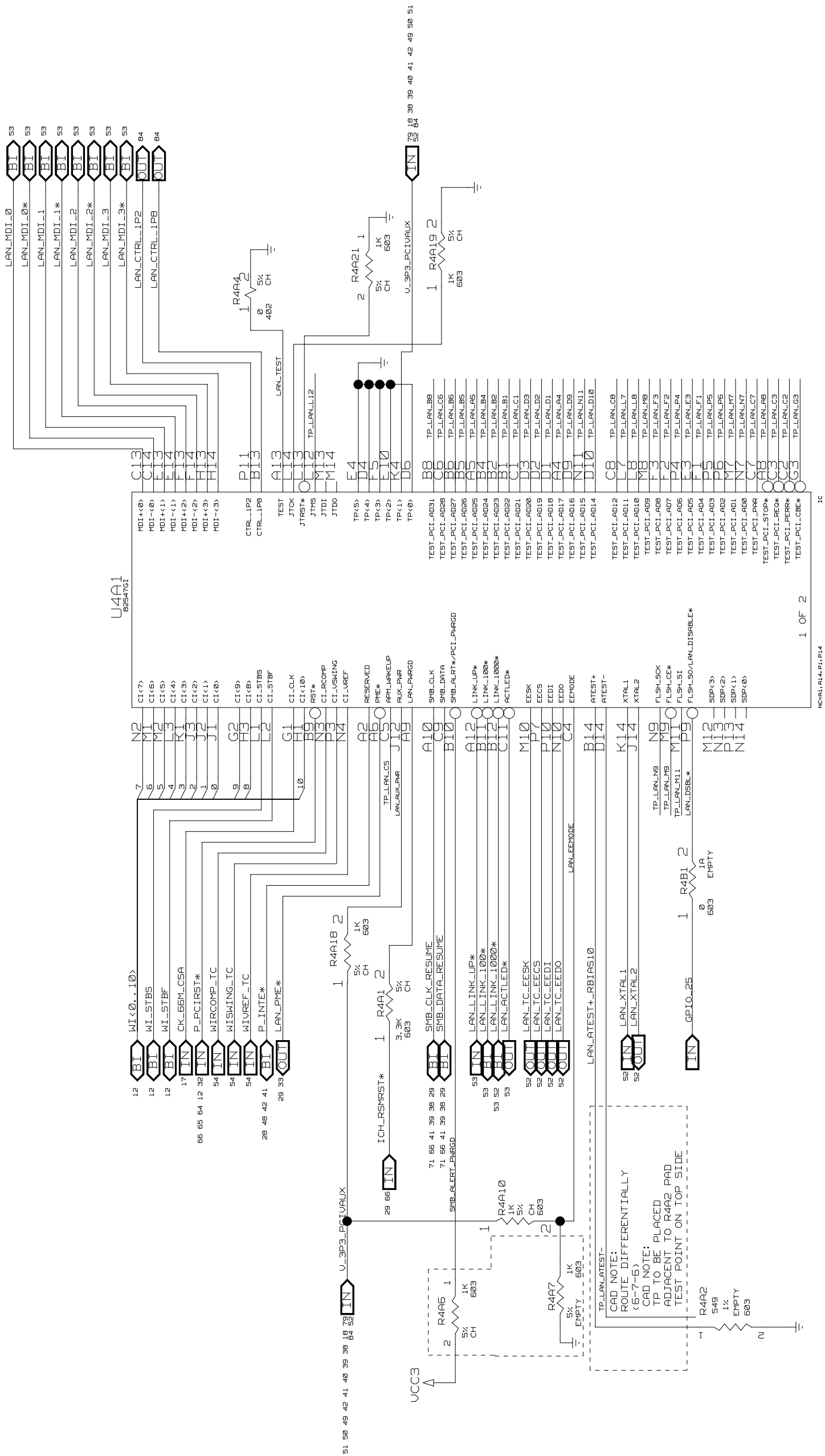
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1900 PRAIRIE CITY ROAD
FOLSOM, CALIFORNIA 95630

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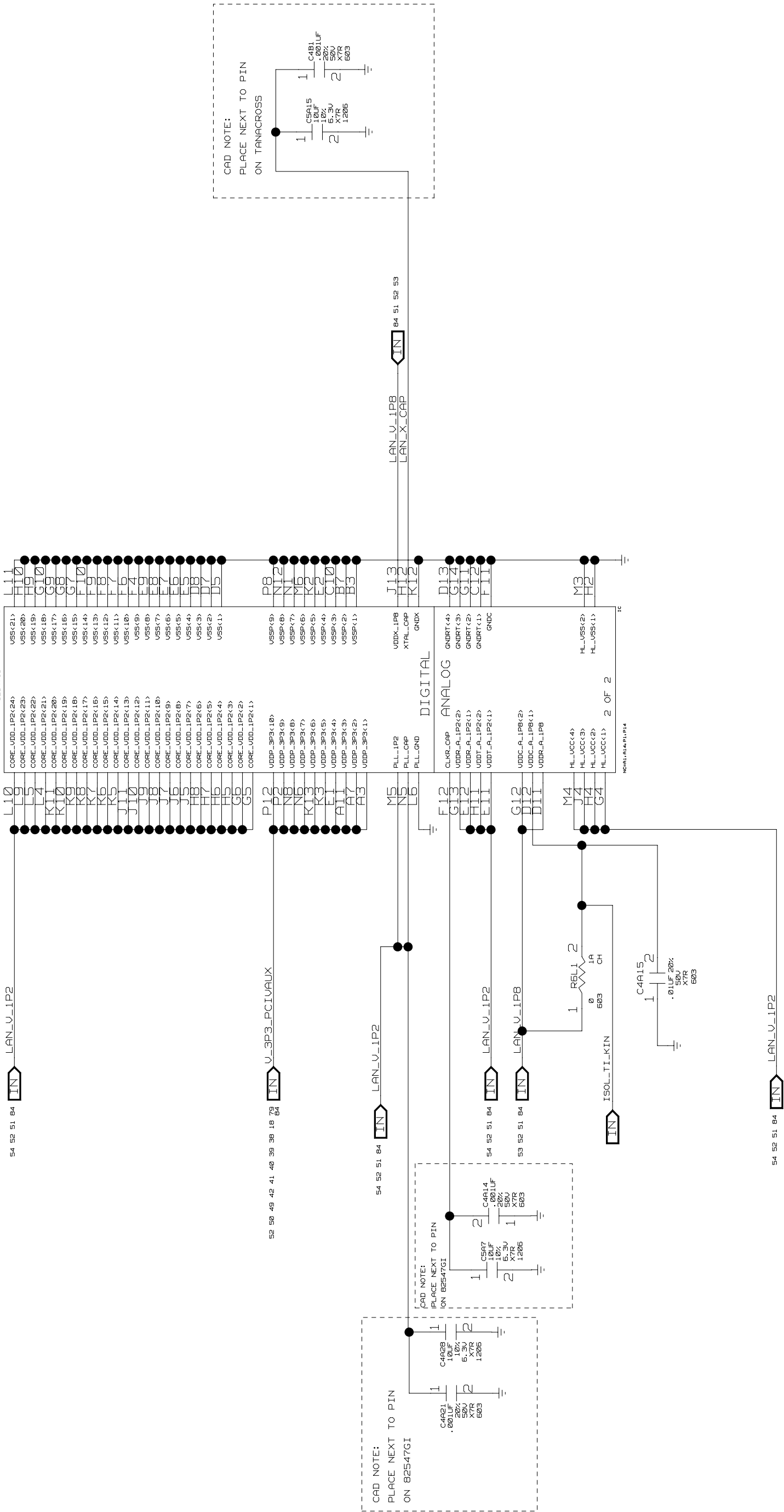
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DESIGN NOTE:
EMPTY R8A4 FOR
ASF2.0 SUPPORT

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INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE:	REV: 1.3
INTEL(R) 82547G1 LAN SOLUTIONS	
INTEL 1900 PRAIRIE CITY ROAD FOI 50M, CAI FORNTA 95630	LAST REVISED: 02.04.2004
SHEET: 50/90	

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Wed Feb 11 18:20:06 2004



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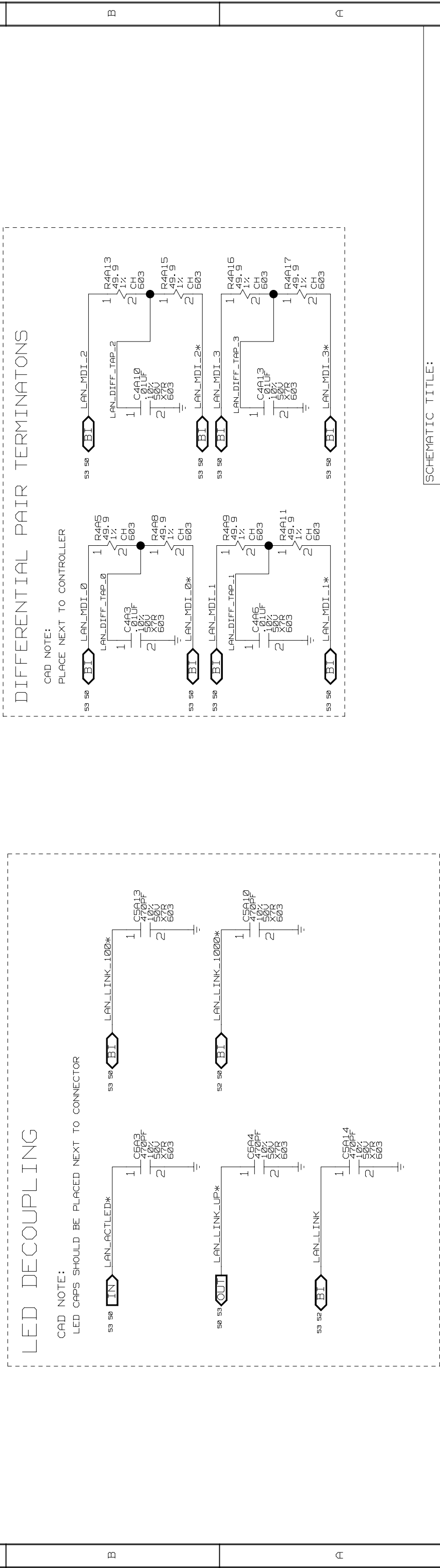
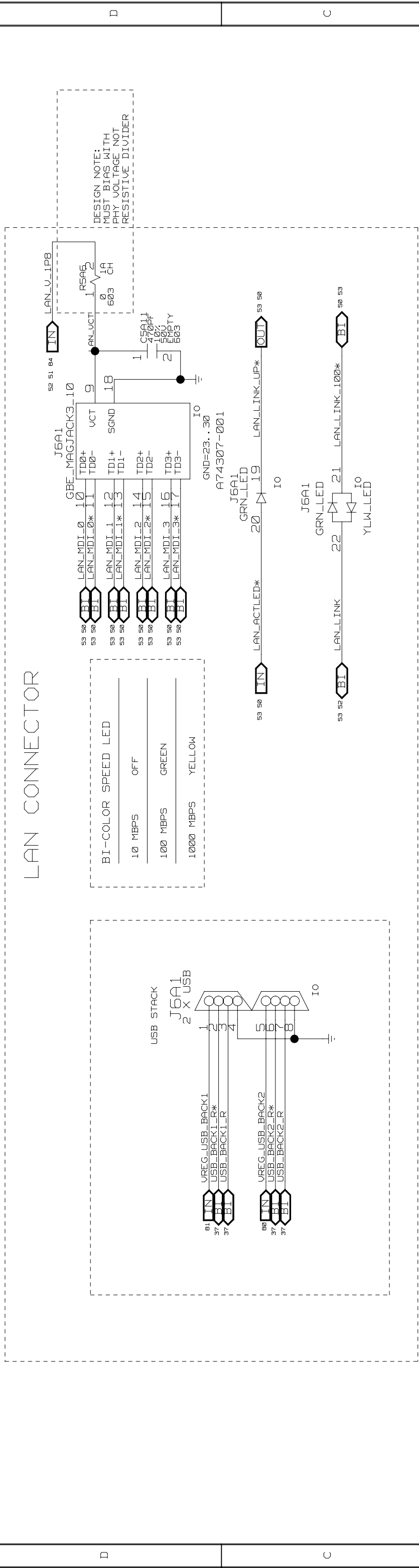
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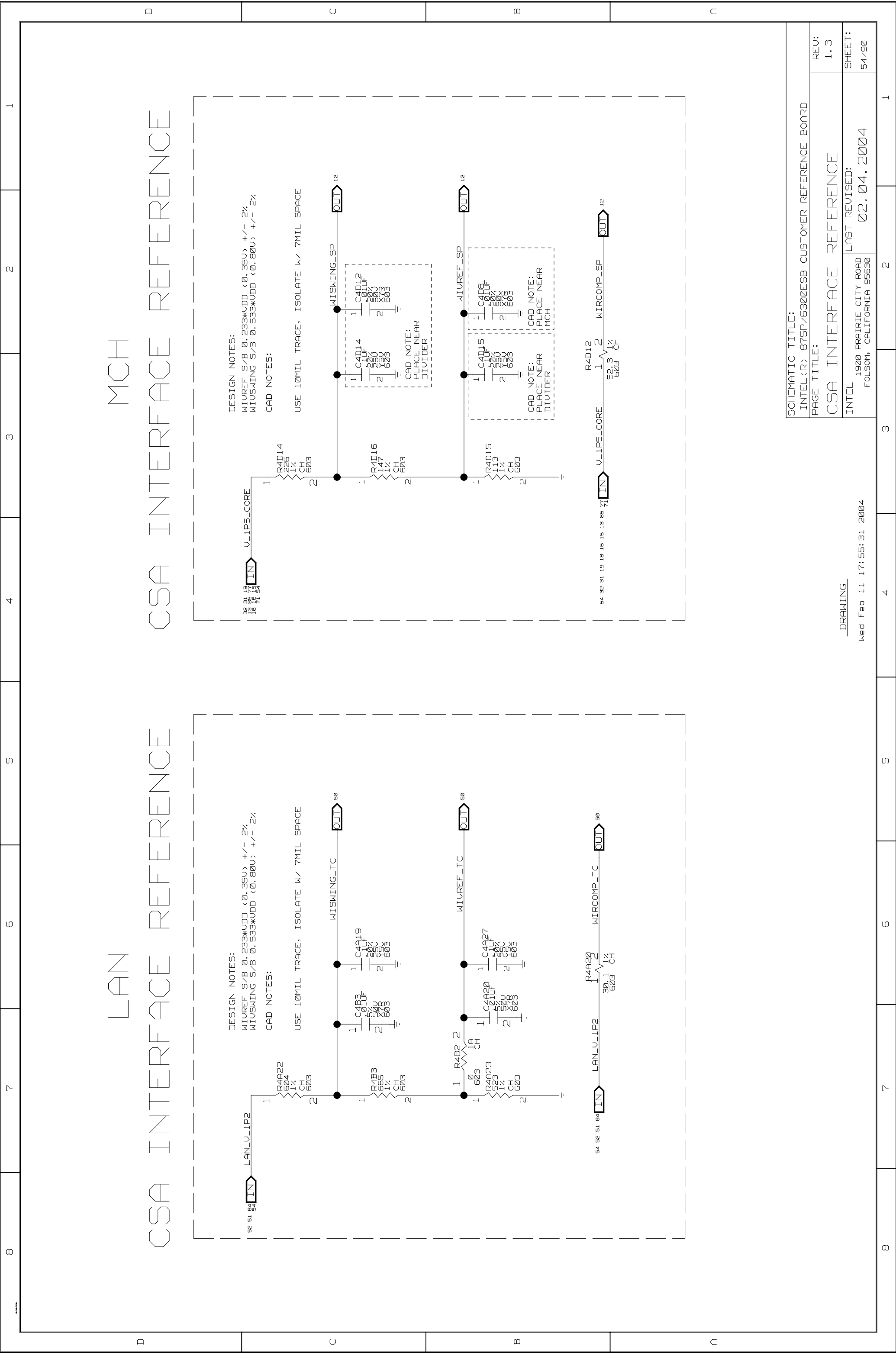
Wed Feb 11 18:20:14 2004

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1900 PRAIRIE CITY ROAD
ENOS, CALIFORNIA 95920
02.04.2004
51/90



SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD		REV: 1.3
PAGE TITLE: LAN MAGJACK & DIFF PAIR TERM		SHEET: 53/90
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004	



54 52 51 54

IN

LAN_V-1P2

R4A22
604
1%
CH
603

1 2

WISWING-TC

1 2

C4B3
50U
50V
X7R
603

1 2

WIVREF-TC

1 2

C4A20
50U
50V
X7R
603

1 2

WIRCOMP-TC

1 2

R4A20
30.1
50V
X7R
603

54 52 51 54

IN

LAN_V-1P2

30.1
50V
X7R
603

1 2

WIRCOMP-TC

1 2

OUT

50

DESIGN NOTES:

WIUREF S/B Ø. 233*UDD (Ø. 35U) +/- 2%
WISWING S/B Ø. 533*UDD (Ø. 80U) +/- 2%
CAD NOTES:
USE 10MIL TRACE, ISOLATE W/ 7MIL SPACE

33 31 19 18 16 15 13 05 71

IN

V-1P5-CORE

R4D14
226
1%
CH
603

1 2

WISWING-SP

1 2

C4D14
50U
50V
X7R
603

1 2

WIVREF-SP

1 2

C4D8
50U
50V
X7R
603

1 2

WIRCOMP-SP

1 2

R4D12
52.3
50V
X7R
603

54 32 31 19 18 15 13 05 71

IN

V-1P5-CORE

52.3
50V
X7R
603

1 2

WIRCOMP-SP

1 2

OUT

12

DESIGN NOTES:

WIUREF S/B Ø. 233*UDD (Ø. 35U) +/- 2%
WISWING S/B Ø. 533*UDD (Ø. 80U) +/- 2%
CAD NOTES:
USE 10MIL TRACE, ISOLATE W/ 7MIL SPACE

54 52 51 54

IN

LAN_V-1P2

R4A22
604
1%
CH
603

1 2

WISWING-TC

1 2

C4B3
50U
50V
X7R
603

1 2

WIVREF-TC

1 2

C4A20
50U
50V
X7R
603

1 2

WIRCOMP-TC

1 2

R4A20
30.1
50V
X7R
603

54 52 51 54

IN

LAN_V-1P2

30.1
50V
X7R
603

1 2

WIRCOMP-TC

1 2

OUT

50

DESIGN NOTES:

WIUREF S/B Ø. 233*UDD (Ø. 35U) +/- 2%
WISWING S/B Ø. 533*UDD (Ø. 80U) +/- 2%
CAD NOTES:
USE 10MIL TRACE, ISOLATE W/ 7MIL SPACE

SCHEMATIC TITLE:

INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD

PAGE TITLE:

CSA INTERFACE REFERENCE

REV:

1.3

INTEL

1900 PRAIRIE CITY ROAD
FOLSOM, CALIFORNIA 95630

LAST REVISED:
02.04.2004

SHEET:

54/90

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Wed Feb 11 17:55:31 2004

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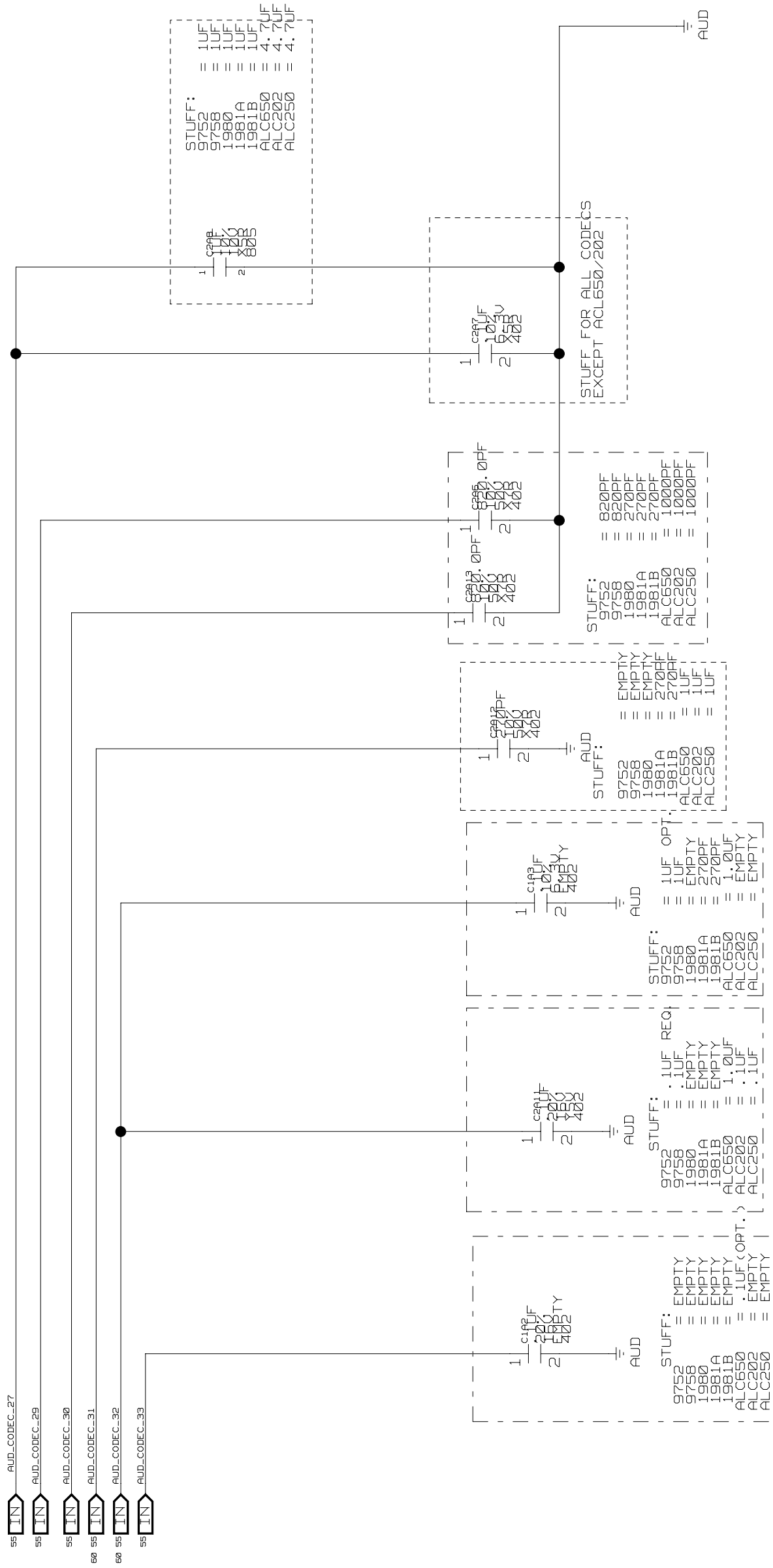
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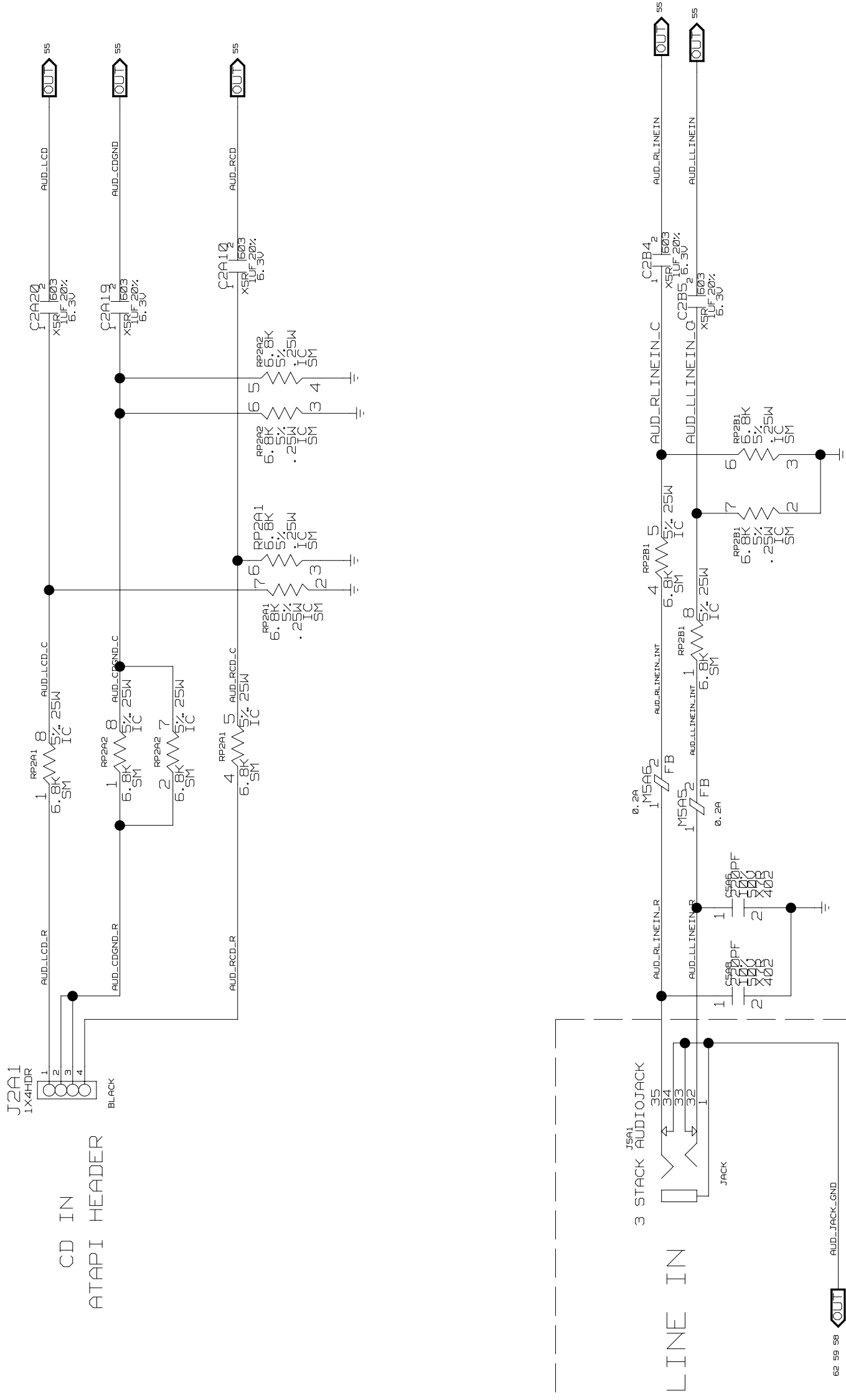
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CODEC FILTER CAPS:

9752, 9758, 1980, 1981A, 1981B,
ALC650, ALC202, ALC250



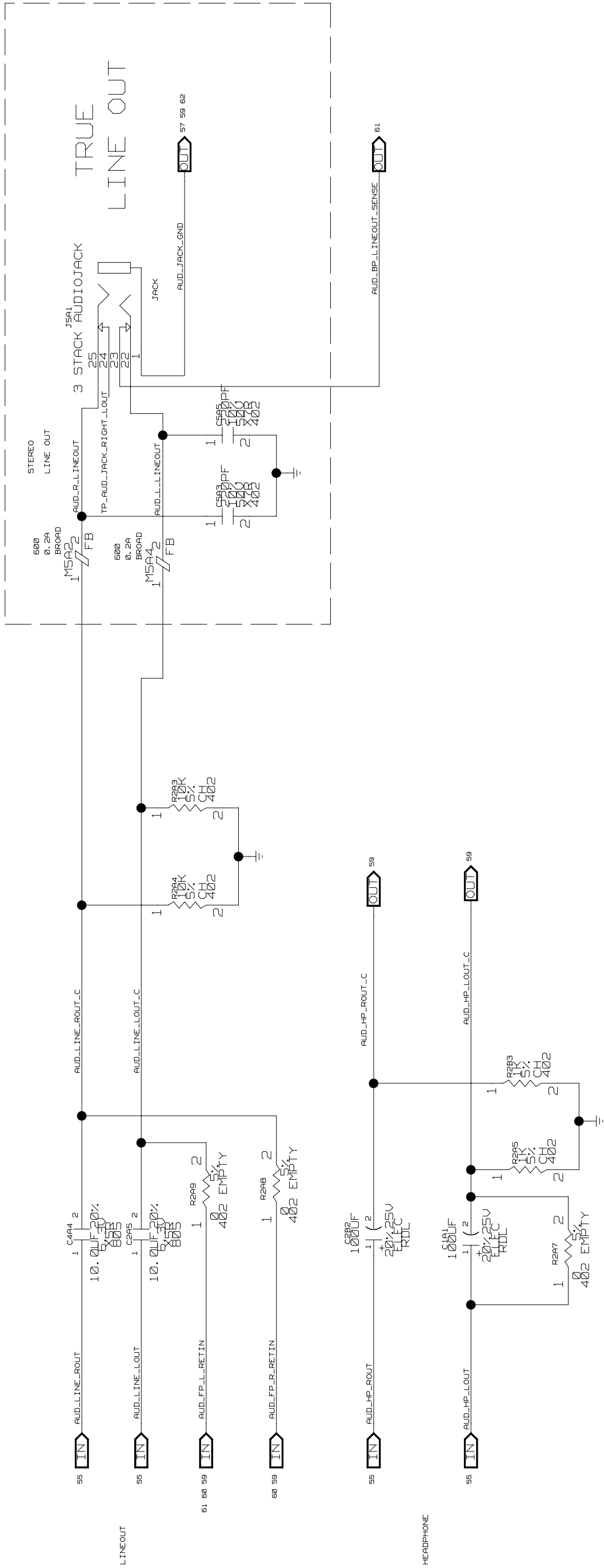
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Wed Feb 11 17:55:06 2004

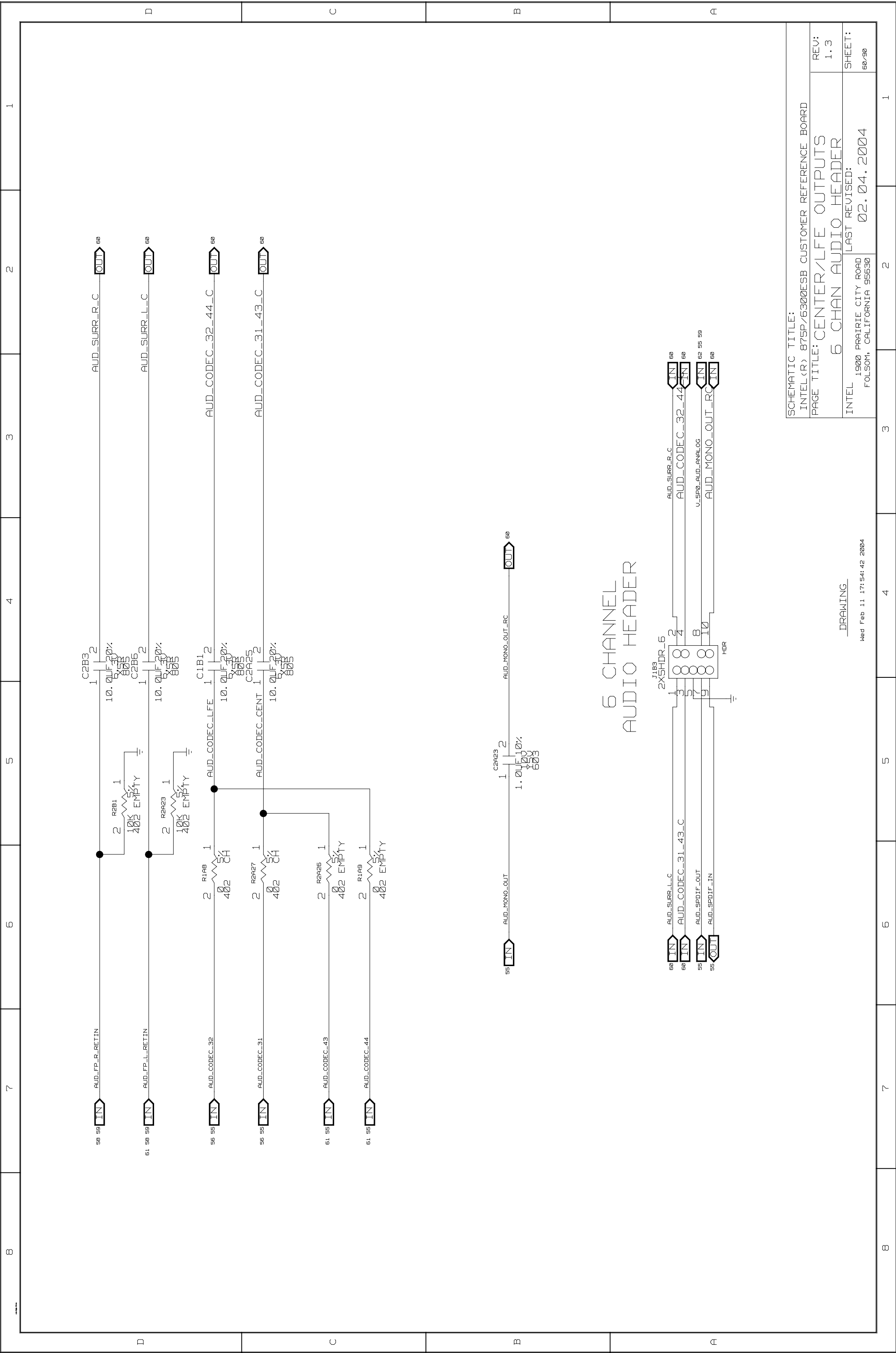


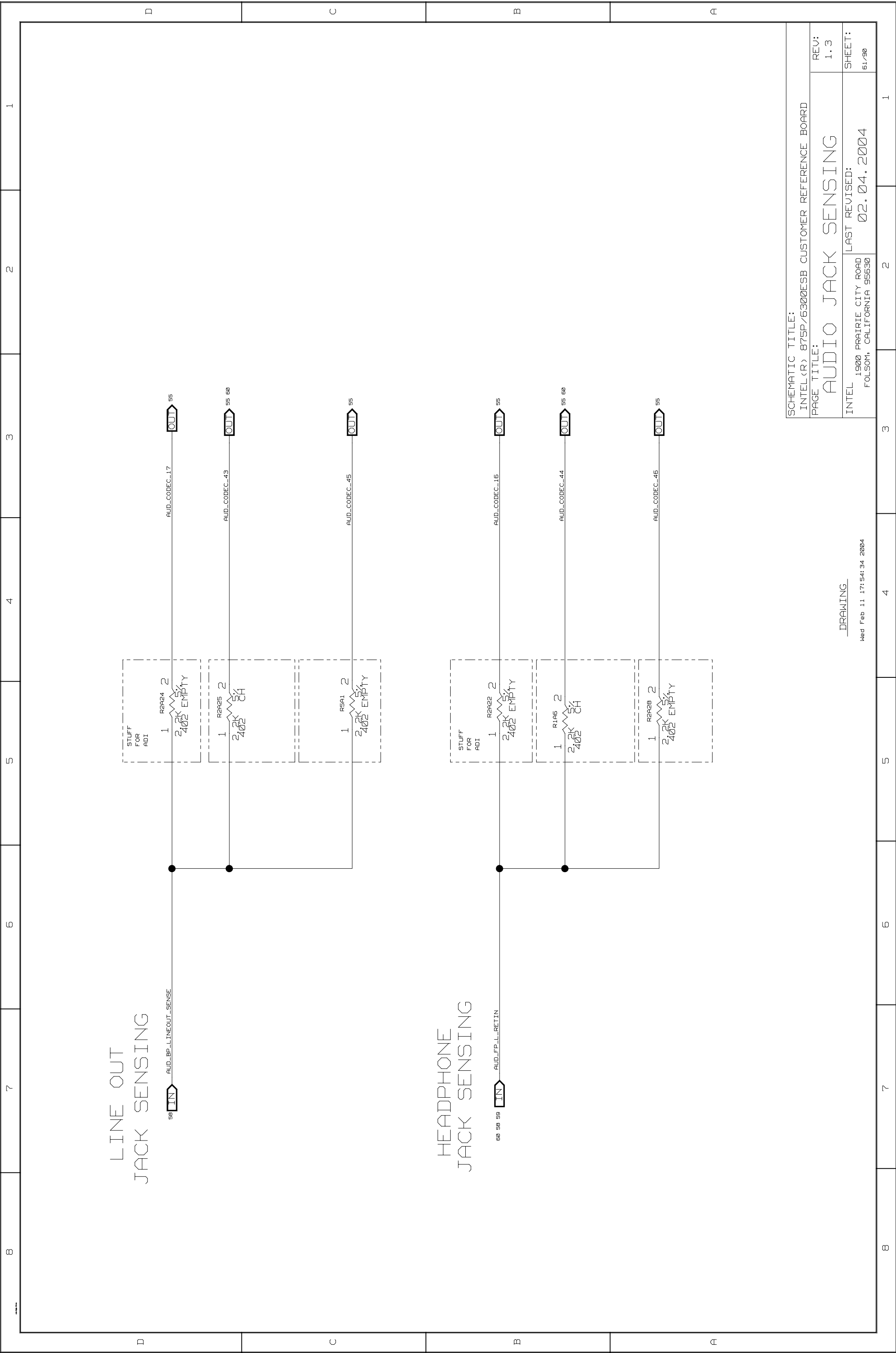
DRAWING

Wed Feb 11 17:54:58 2004

SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD		REV: 1.3
PAGE TITLE: LINE OUT CONN. (2 OF 3)		
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004	SHEET: 58/90

INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004	SHEET: 58/90
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SCHMATIC TITLE:

INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD

PAGE TITLE:

AUDIO JACK SENSING

REV:

1.3

INTEL

1900 PRAIRIE CITY ROAD
FOLSOM, CALIFORNIA 95630

LAST REVISED:
02.04.2004

61/90

SHEET:

1

DRAWING

Wed Feb 11 17:54:34 2004

8

7

6

5

4

3

2

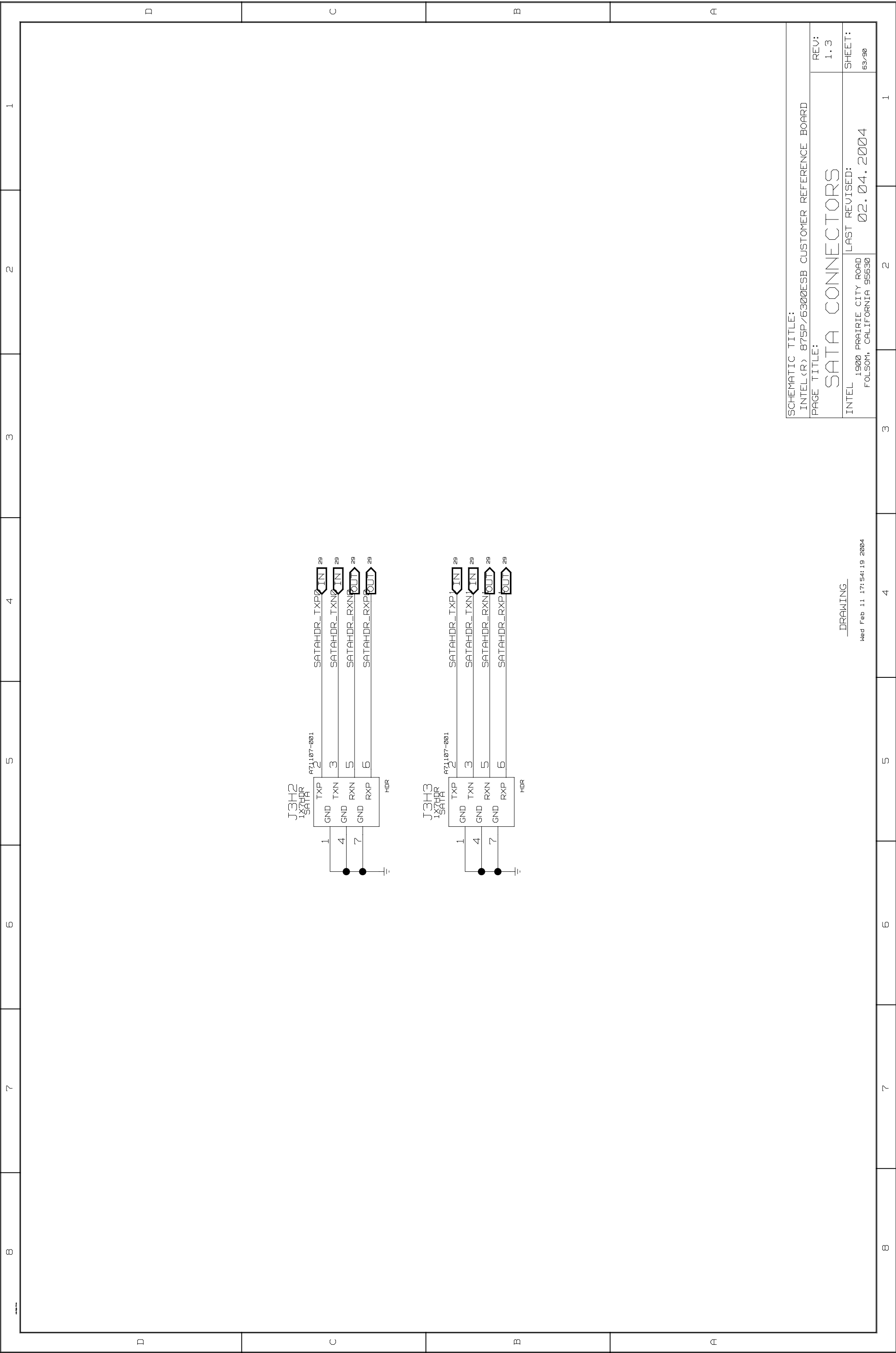
1

D

C

B

A



1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

A71107-001

J3H3

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP0

TXN0

RXN0

RXP0

IN

IN

OUT

OUT

A71107-001

J3H2

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

A71107-001

J3H3

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP0

TXN0

RXN0

RXP0

IN

IN

OUT

OUT

A71107-001

J3H2

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

A71107-001

J3H3

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP0

TXN0

RXN0

RXP0

IN

IN

OUT

OUT

A71107-001

J3H2

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

A71107-001

J3H3

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP0

TXN0

RXN0

RXP0

IN

IN

OUT

OUT

A71107-001

J3H2

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

A71107-001

J3H3

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP0

TXN0

RXN0

RXP0

IN

IN

OUT

OUT

A71107-001

J3H2

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

A71107-001

J3H3

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP0

TXN0

RXN0

RXP0

IN

IN

OUT

OUT

A71107-001

J3H2

1X HDR

SATA

1

GND

4

GND

7

GND

2

TXP

3

TXN

5

RXN

6

RXP

SATAHDR

TXP1

TXN1

RXN1

RXP1

IN

IN

OUT

OUT

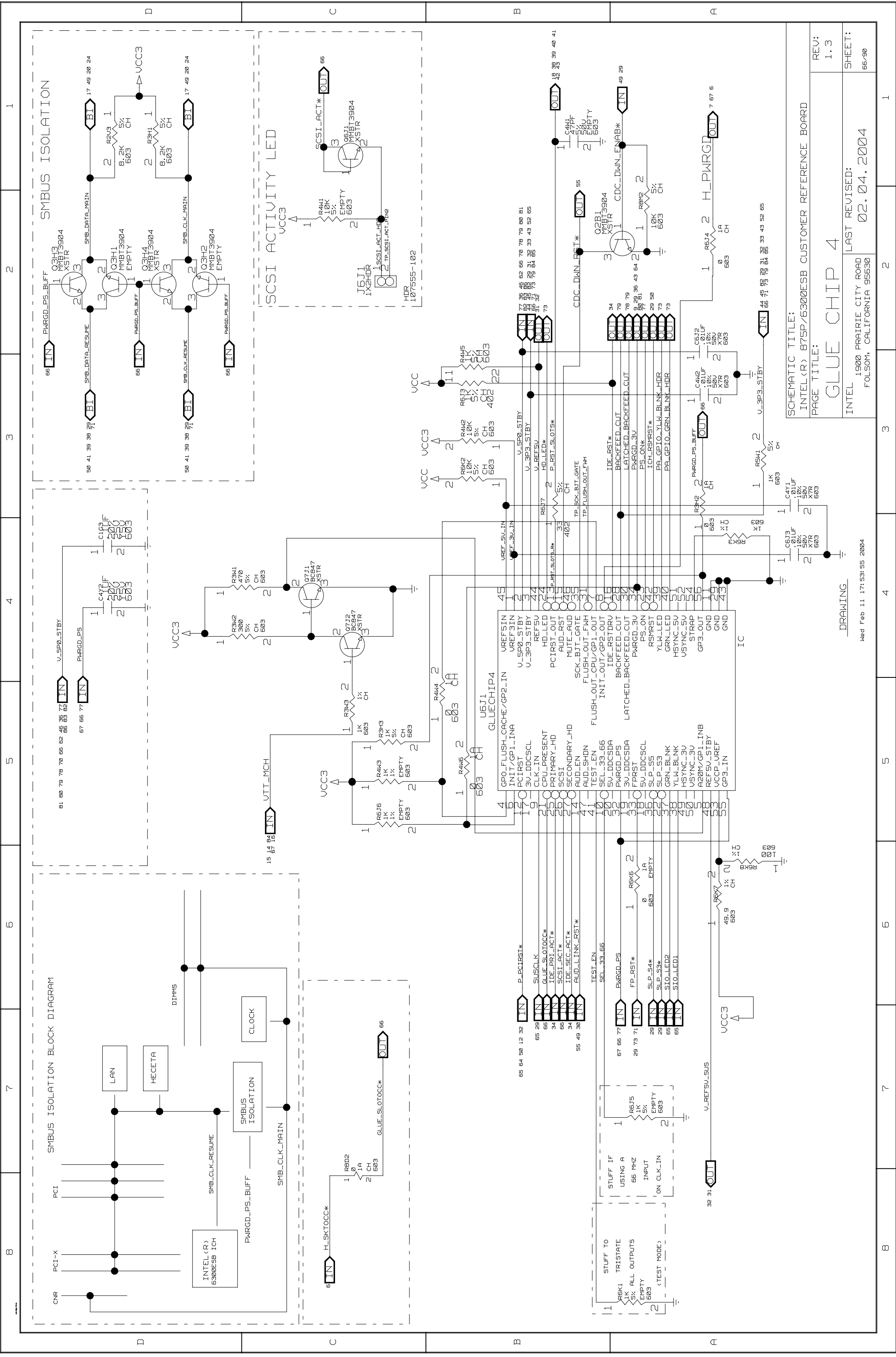
A71107-001

J3H3

1X HDR

SATA

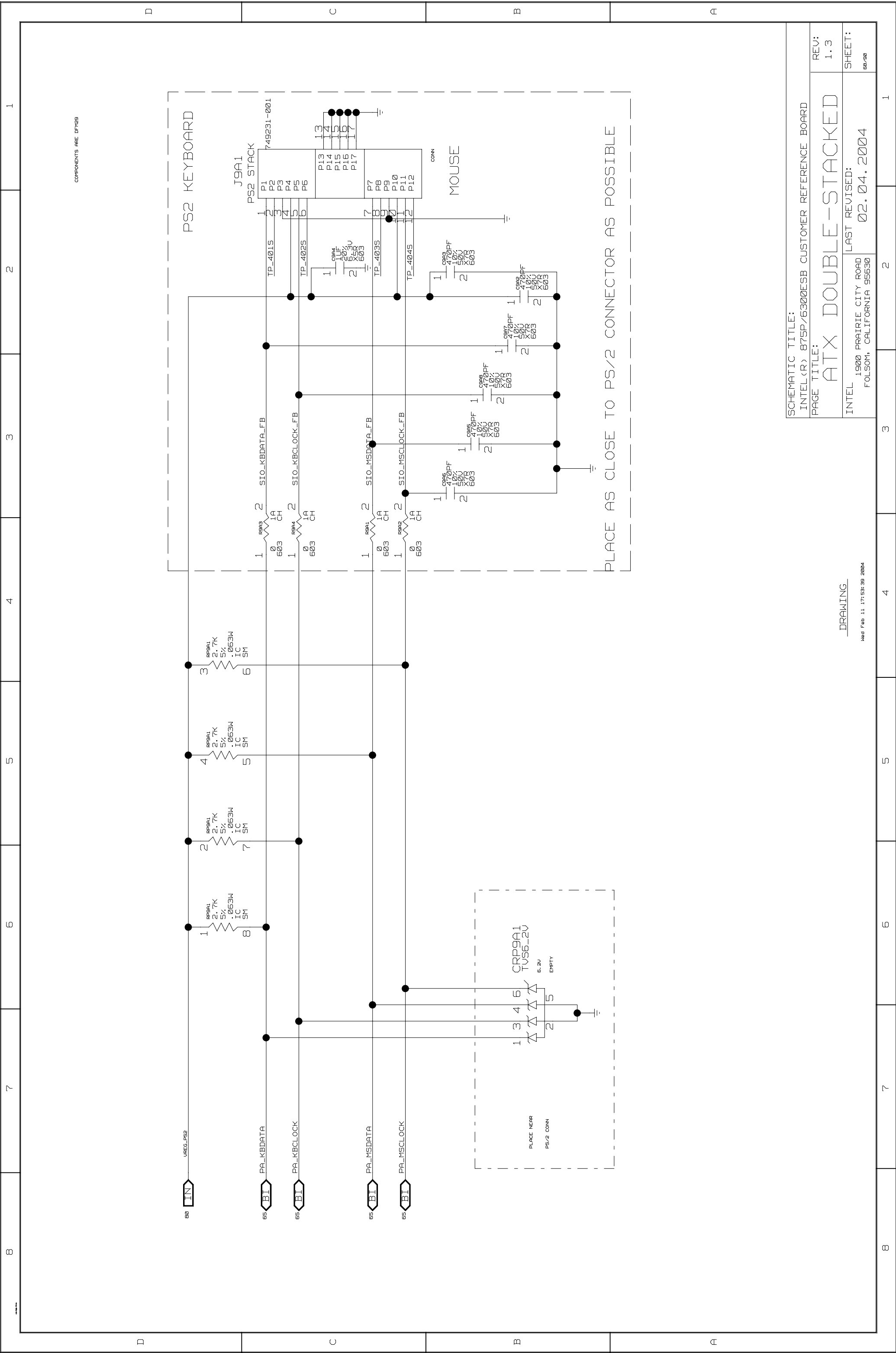
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INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE:	REV:
SATA CONNECTORS	1.3
INTEL	LAST REVISED:
1900 PRAIRIE CITY ROAD	02.04.2004
FOLSOM, CALIFORNIA 95630	SHEET:
	63/90

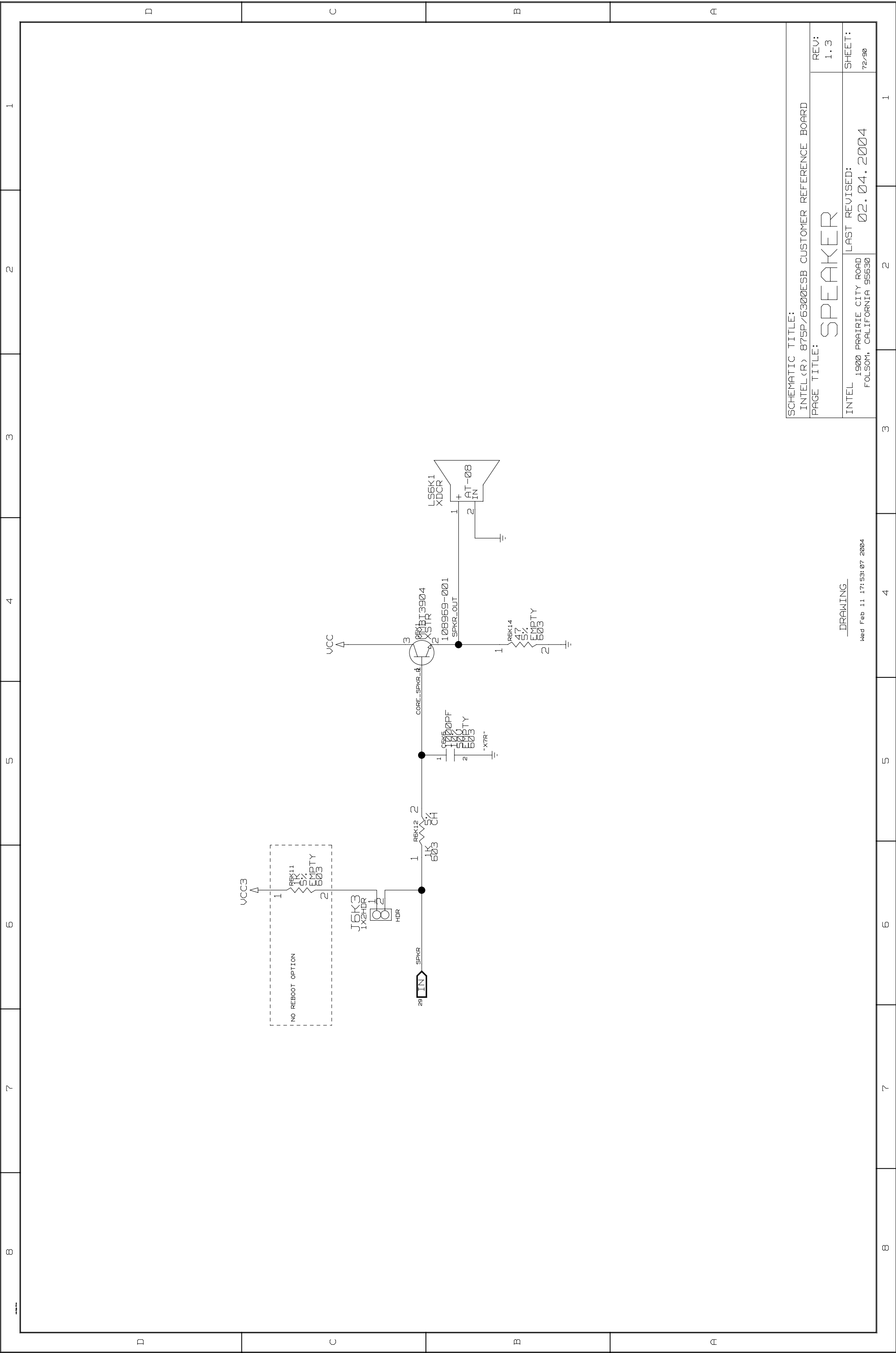


SCHEMATIC TITLE:		INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE:		GLUE CHIP 4	
REV:		1.3	
SHEET:		66/90	
LAST REVISED:		02.04.2004	
INTEL		1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	

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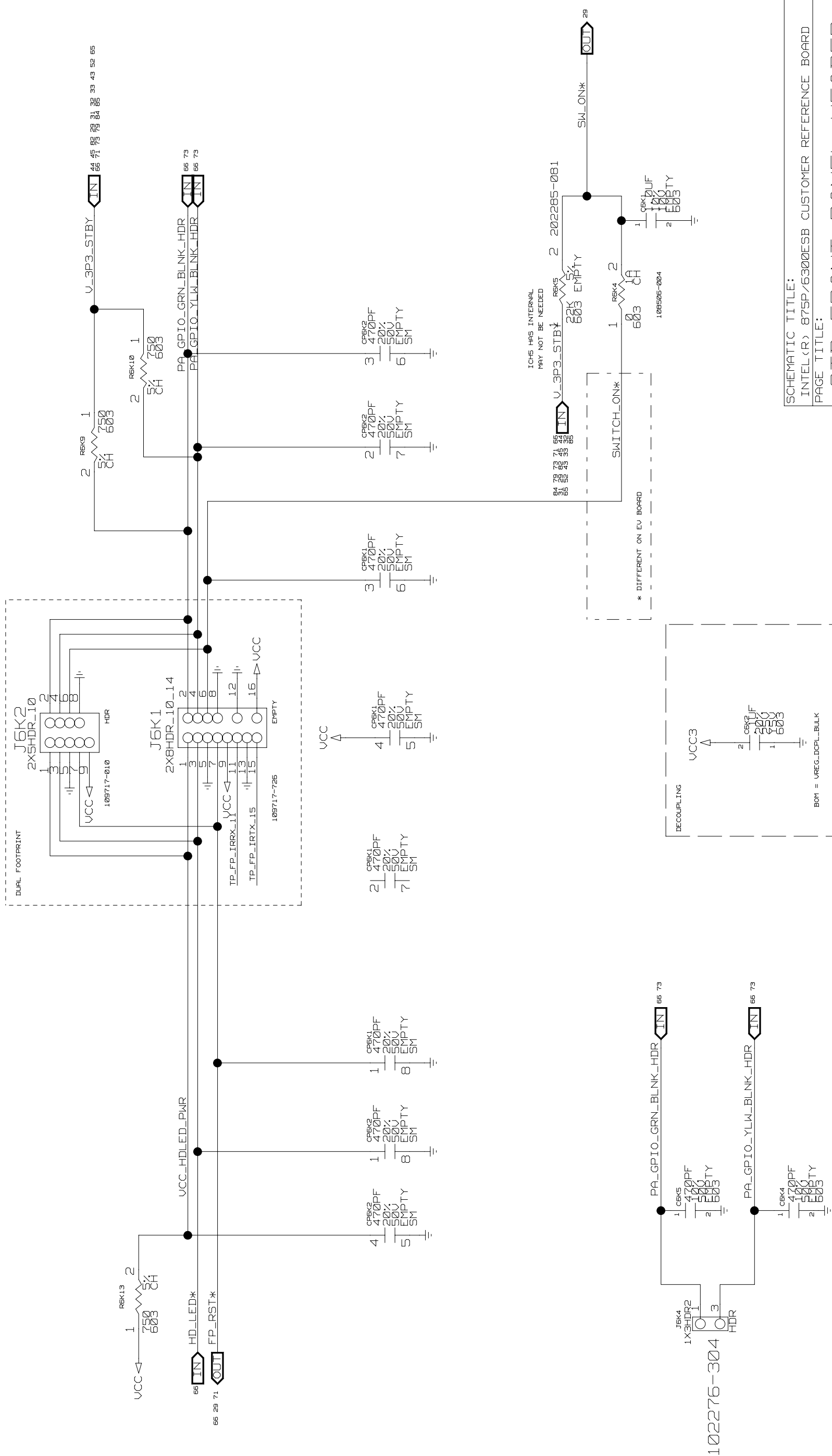
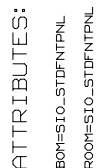
Wed Feb 11 17:53:55 2004





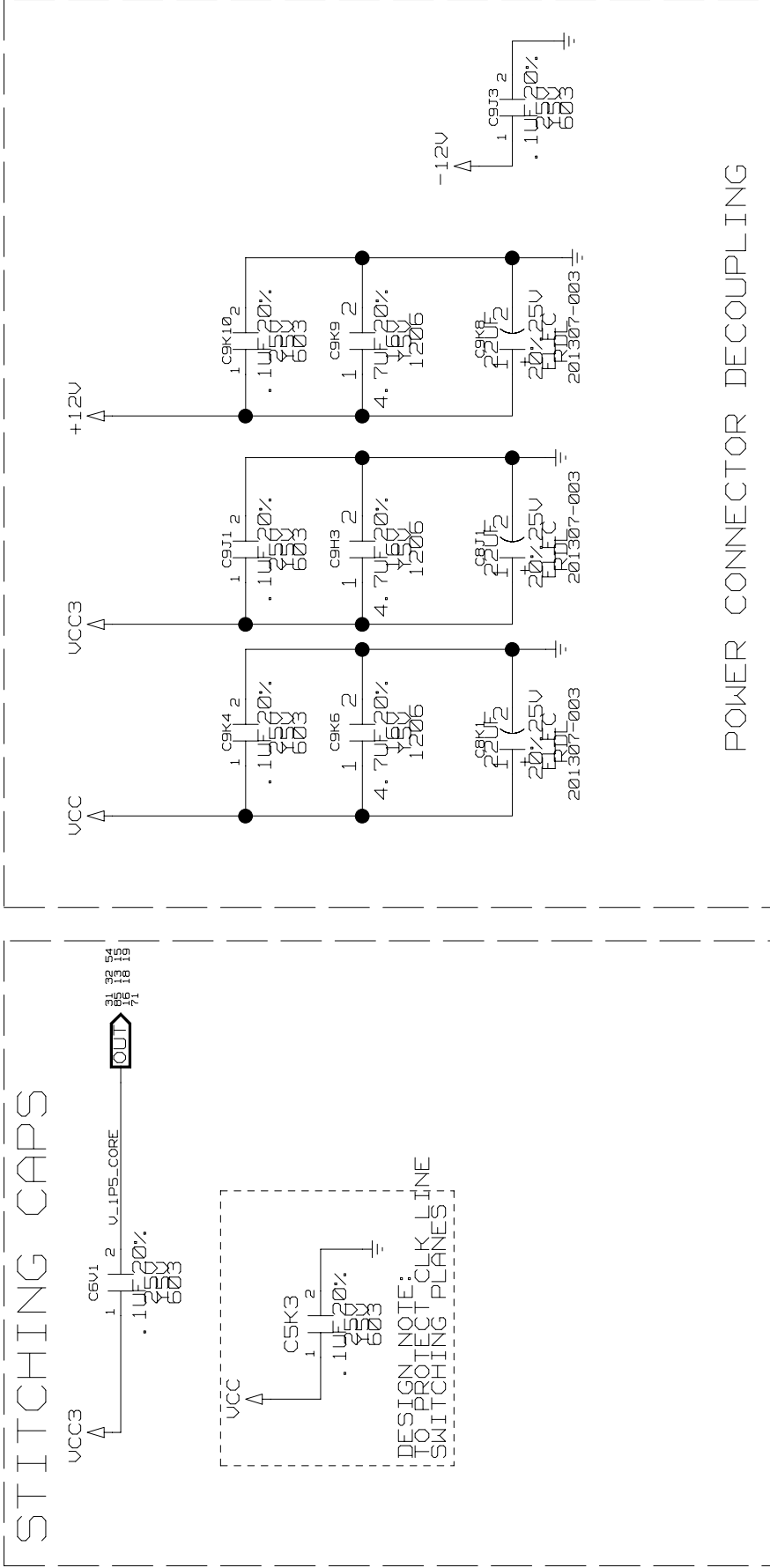
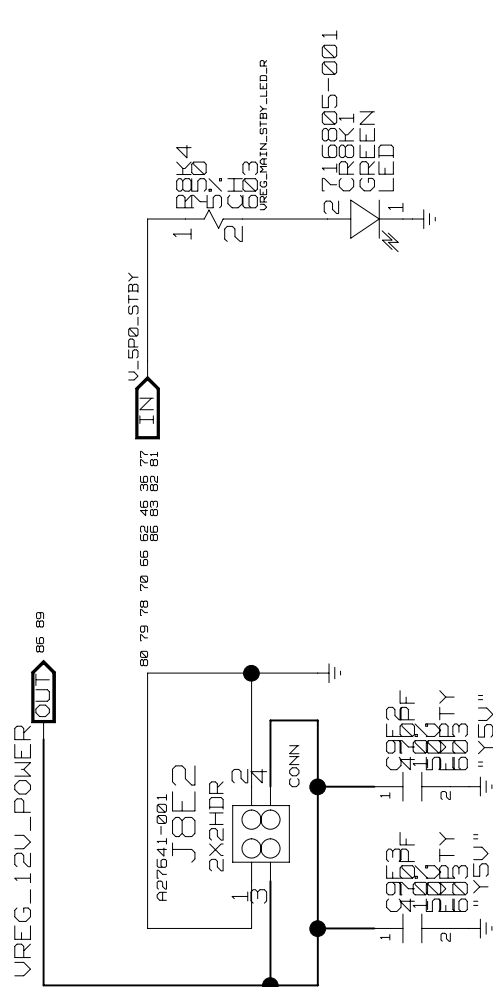
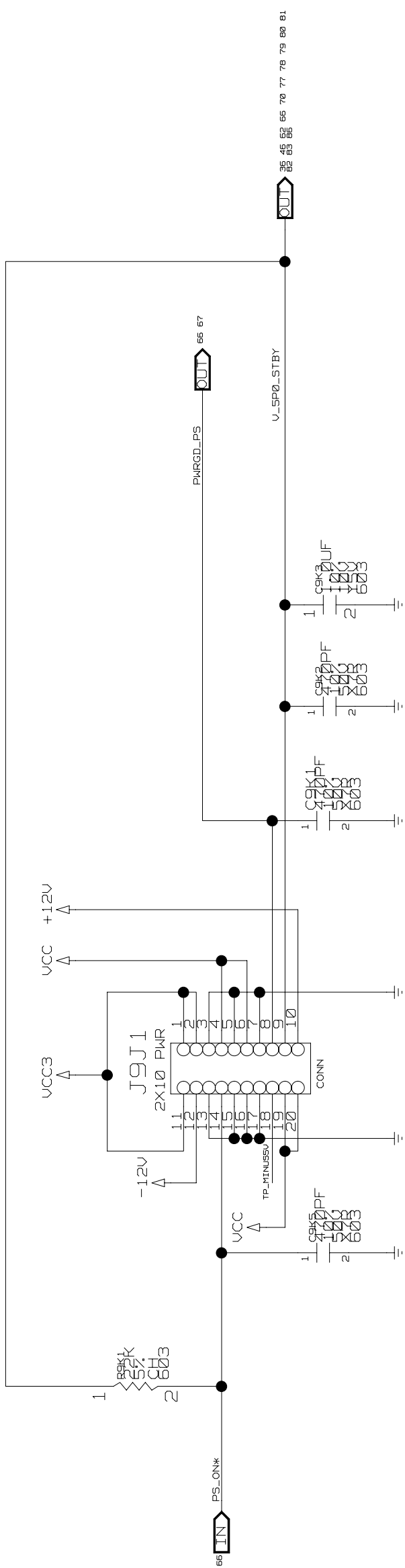
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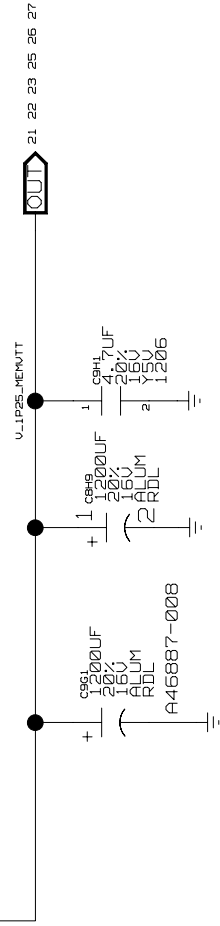
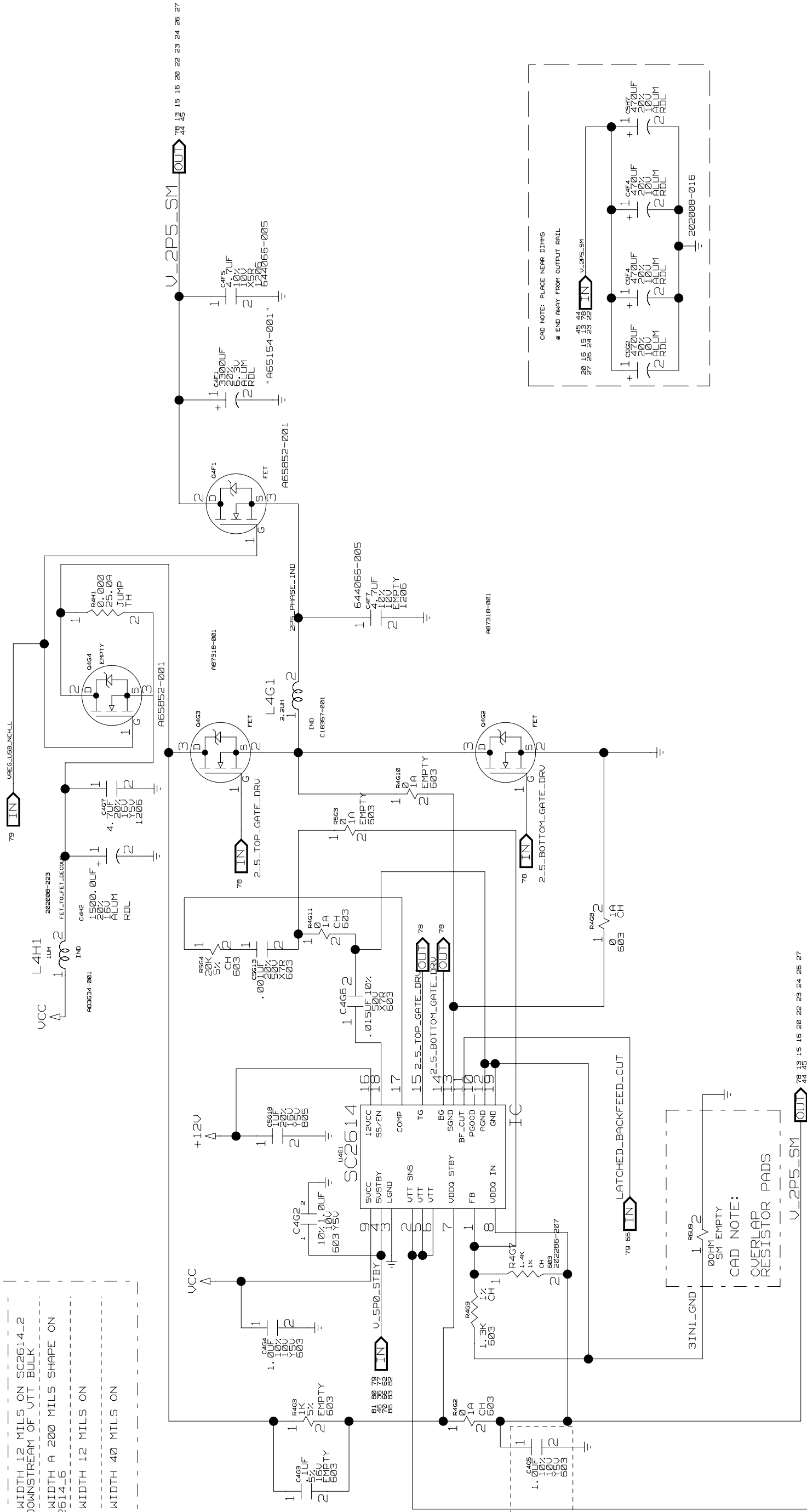
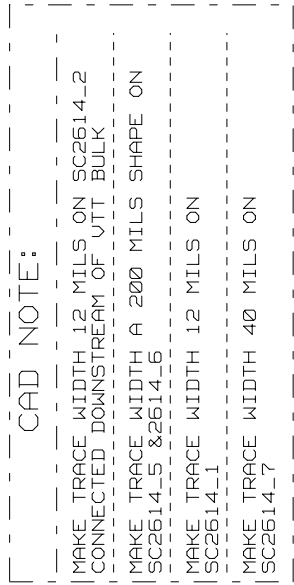


SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE: STD FRONT PANEL HEADER	REV: 1.3
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004
SHEET: 73/90	

8		7	6	5	4	3	2	1
D	INTEL<R> 875P MCH		GLUECHIP 4		VREG_12V_FILTERED <+12V FILTERED FROM 12V POWER-SUPPLY>			
	MCH_VTT <1.2 OR 1.45V>		3.3 <VCC3>		VCCP <FOR CPU 1.28 - 1.45V>			
	1.5 CORE		5.0 <VCC>		U_1P25_MEMVTT <1.25V DERIVED FROM U_2.5>			
C	2.5 SM <S0 & S3>		3.3 STBY <VCC3 STBY>		VREG_PS2 <5.0 FROM VCC OR 5.0-STANDBY>			
	3.3 <VCC3>		5.0 STBY <VCC STBY>		U_2P5_SM <2.5V DERIVED FROM VCC>			
	INTEL<R> 6300ESB ICH		INTEL<R> 82547GI		VREG_USB_BP_LEFT <5.0 FROM VCC OR 5.0-STANDBY>			
B	3.3 <VCC3>		1.2 LAN		USB_FNT_PWR <5.0 FROM VCC OR 5.0-STANDBY>			
	1.5 CORE		1.8 LAN		VREG_USB_BP_RIGHT <5.0 FROM VCC OR 5.0-STANDBY>			
	1.5 STBY		3.3 PCIVAUX		U_3P3_PCI_VAUX <3.3V OR 3.3-STANDBY SOURCE>			
A	3.3 STBY		3.3 STBY <VCC3 STBY>		U_3P3_STBY <3.3V DERIVED FROM 5.0-STANDBY>			
	5.0 STBY		FWH		U_5P0_STBY <5.0V STANDBY FROM POWER-SUPPLY>			
	1.35 <VCCP>		3.3 <VCC3>		U_5P0_STBY <5.0V STANDBY FROM POWER-SUPPLY>			
CK-409		DIMMS		U_BAT_VREG_S_OR <3.0V FROM THE BATTERY>				
3.3 <VCC3>		2.5 SM <S0 & S3>		U_3P0_BAT_VREG <~3.0V FROM THE BATTERY THROUGH A DIODE>				
HECETA 6		1.25 <MEM_VTT>		+12V <PLUS 12V FROM POWER-SUPPLY>				
3.3 STBY <VCC3 STBY>				-12V <MINUS 12V FROM POWER-SUPPLY>				
5.0 <VCC>				VCC3 <3.3V FROM POWER-SUPPLY>				
12				VCC <5.0V FROM POWER-SUPPLY>				
1.35 <VCCP>				LAN_U_IP2 <1.2V DERIVED FROM 3.3PCIVAUX>				
1.5 <CORE>				LAN_U_IP8 <1.8V DERIVED FROM 3.3PCIVAUX>				
				U_IP5_CORE <NOT CONNECTED>				
				U_IP25_MEMVTT_B <NOT CONNECTED>				
				U_IP3_NOMINAL <NOT CONNECTED>				
				U_IP5_AGP <DERIVED FROM 1.5V CORE> <NOT CONNECTED>				
				U_12VREG <NOT CONNECTED>				
				U_AGP_VDDQ <DERIVED FROM 1.5V CORE> <NOT CONNECTED>				



SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE: STANDARD POWER CONNECTOR	REV: 1.3
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004
SHEET: 77/90	



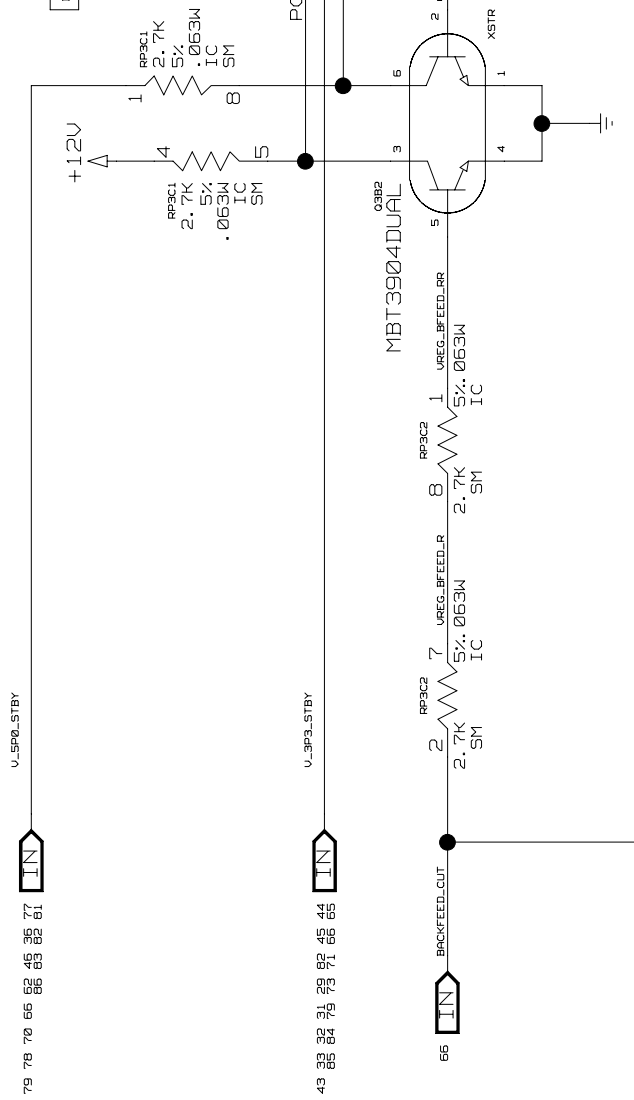
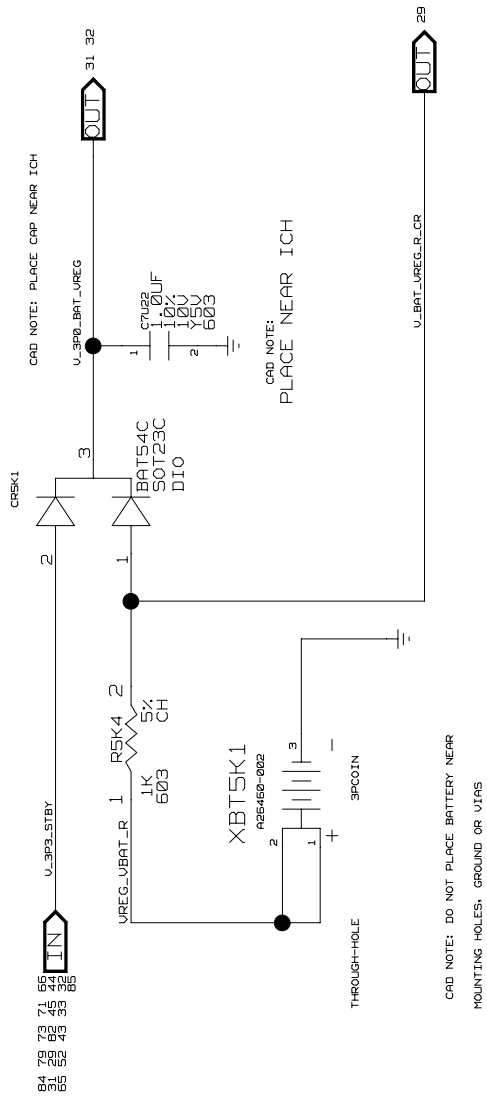
STANDBY POWER FOR SLEEP STATES TO MEMORY COMPONENTS

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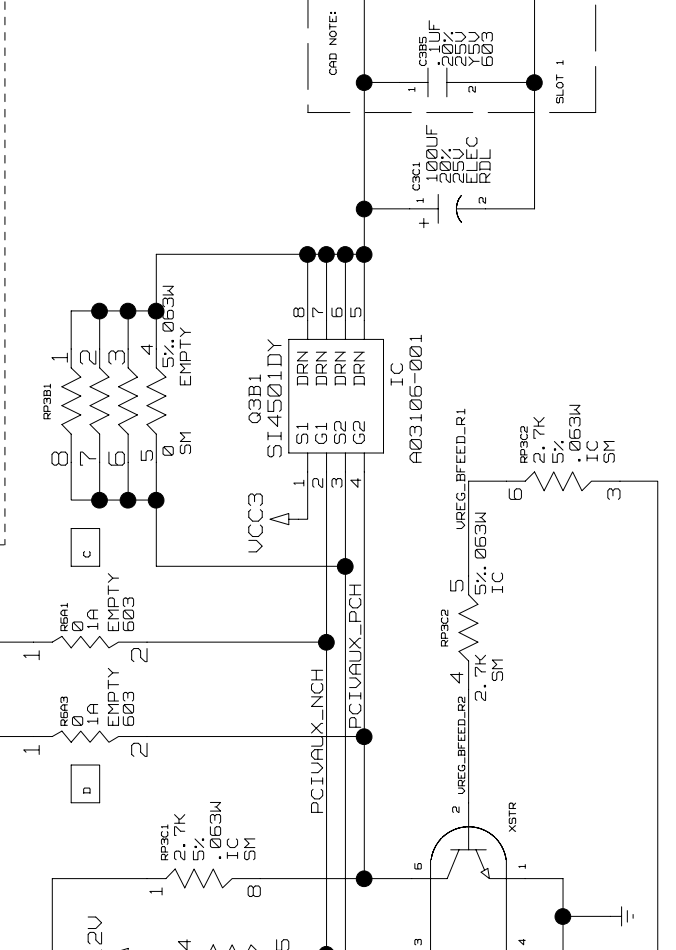
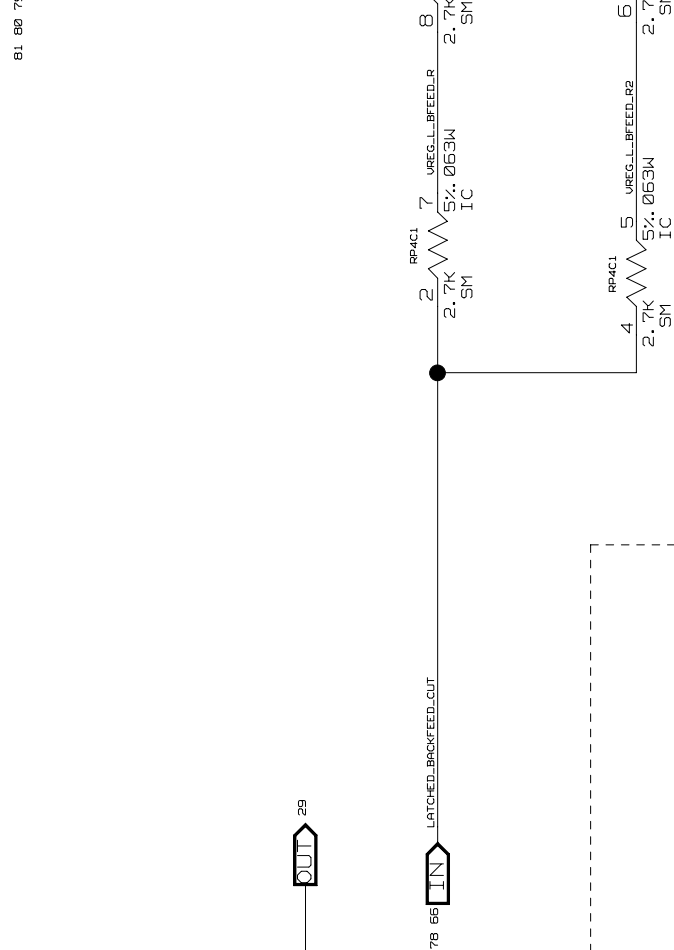
Wed Feb 11 17:52:20 2004

SCHEMATIC TITLE: INTEL(R) 875P/6300FSB CUSTOMER REFERENCE BOARD		REV: 1.3
PAGE TITLE: 2P5_VREG (W/ STBY) 1P25V_VREG		SHEET: 76/98
INTEL	1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004

BATTERY



	A & B	C & D
USB/PS2WAKE		
S3 ONLY	STUFF	EMPTY
DEFAULT	EMPTY	STUFF



SCHEMATIC TITLE:

INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD

PAGE TITLE:

A collection of 12 geometric shapes, including various polygons and lines, arranged in two rows of six.

LAST REVISED:

02.04.2004

INTEL

1900 PRAIRIE CITY ROAD
EOLSON COLLEGE

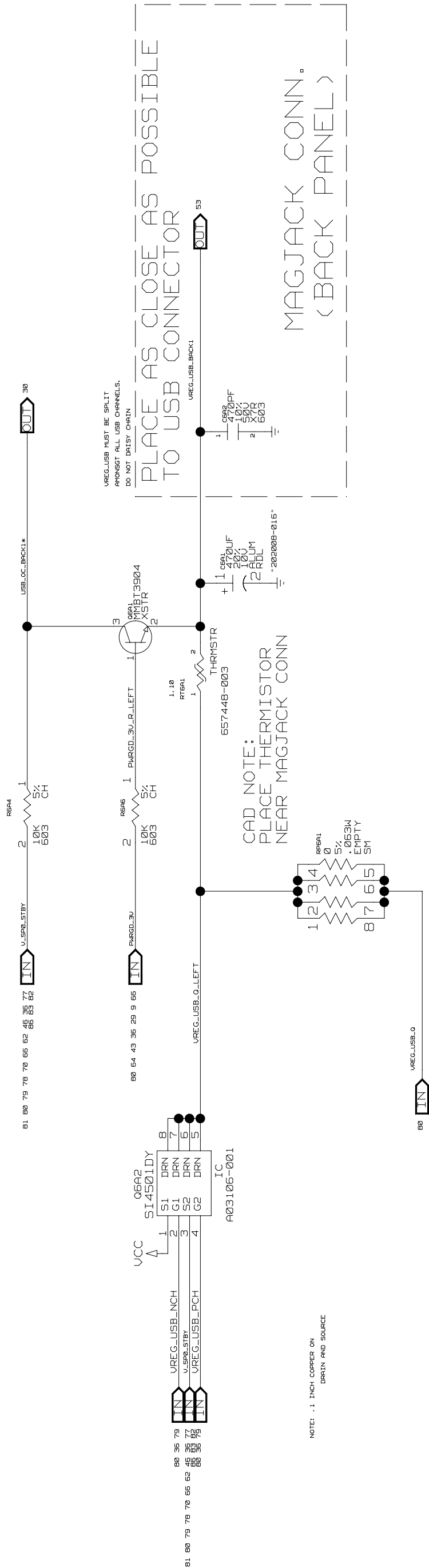
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Wed Feb 11 17:52:12 2004

REV: 1.3

SHEET:

52

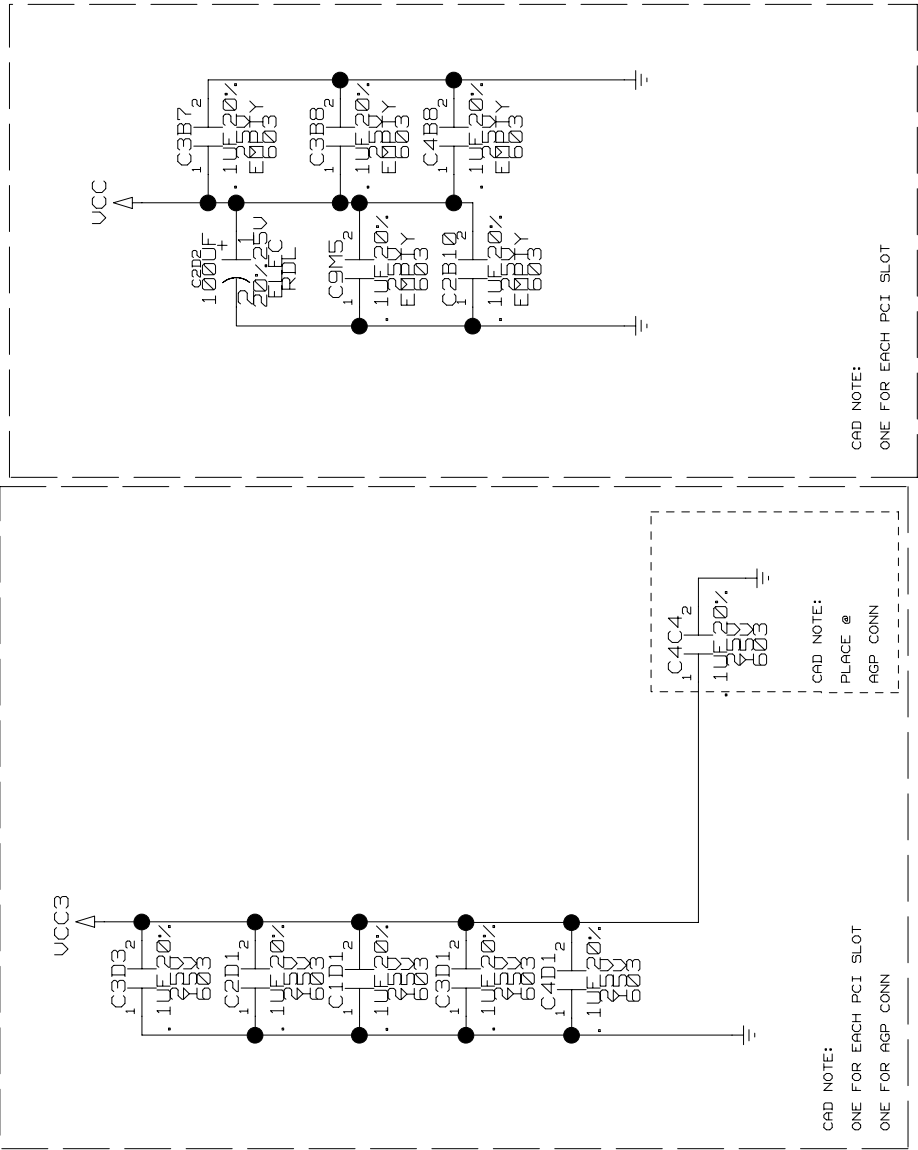
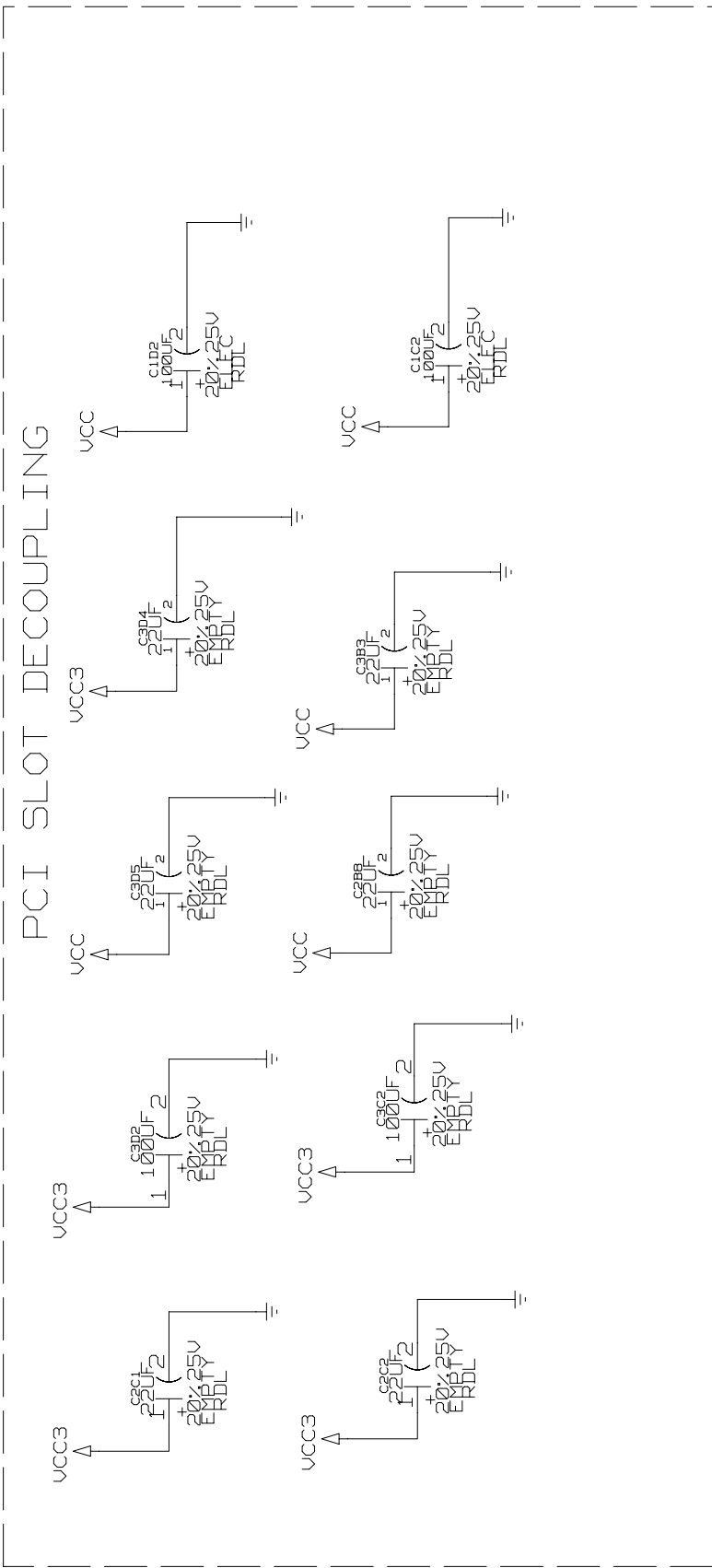
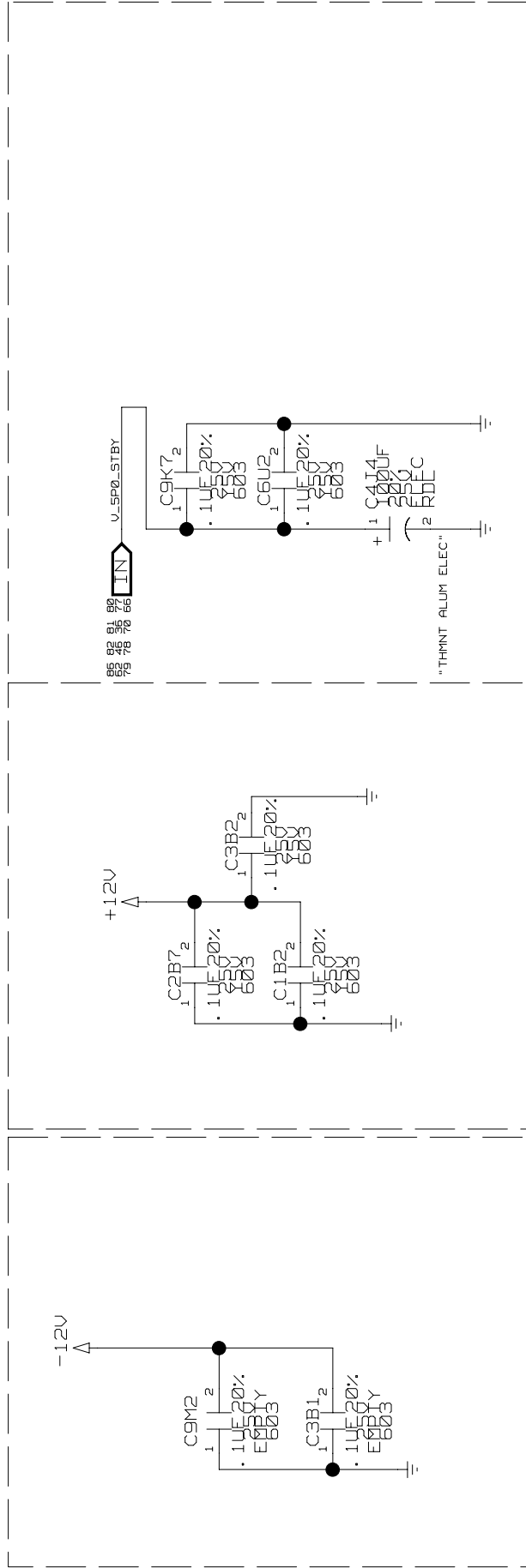


NOTE: .1 INCH COPPER ON
DRAIN AND SOURCE

DRAWING

Wed Feb 11 17:51:56 2004

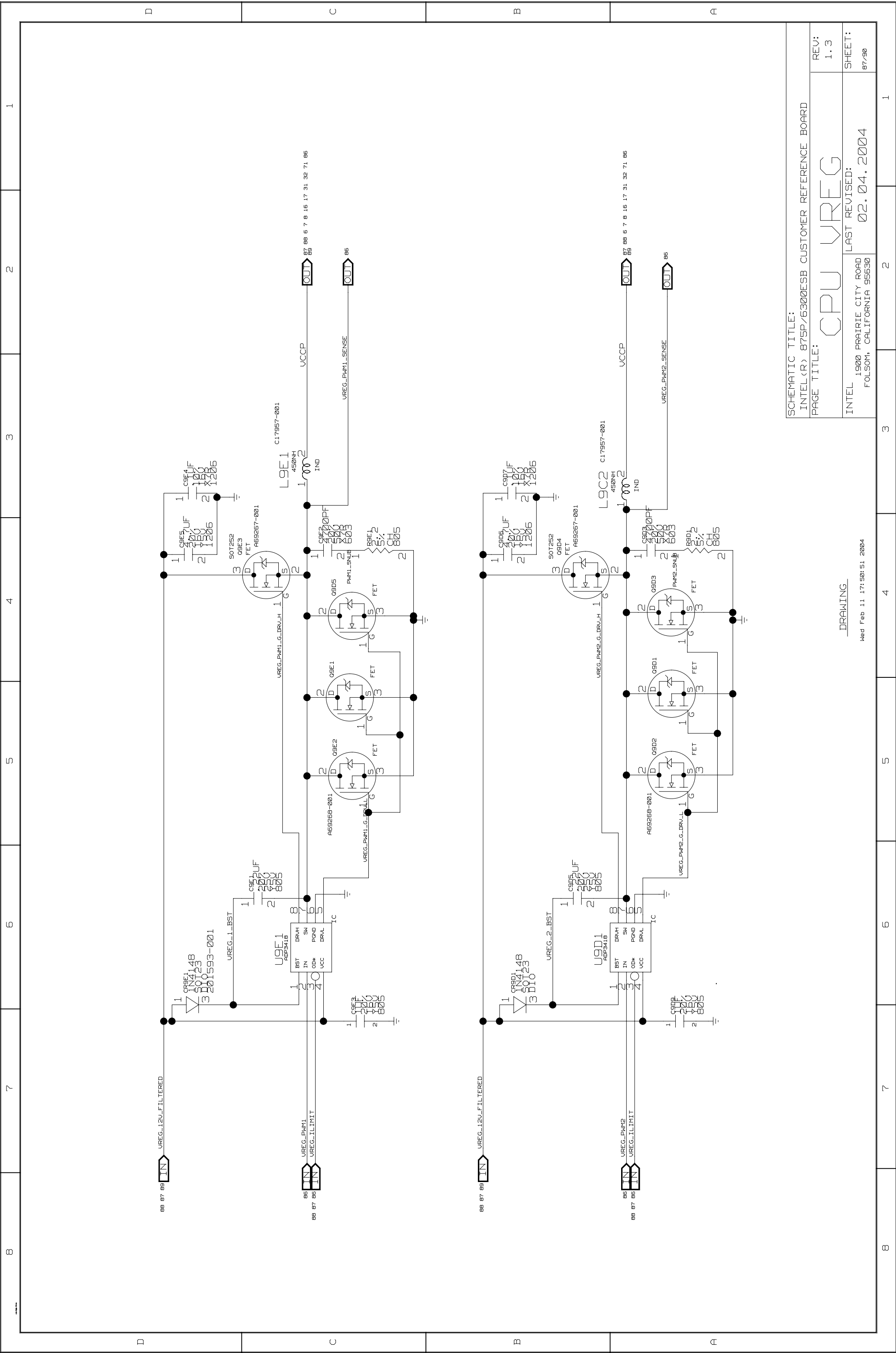
SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE: BACK PANEL USB - 1	REV: 1.3
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004
SHEET: B1/90	



SCHEMATIC TITLE: INTEL(R) 875P/6300ESB CUSTOMER REFERENCE BOARD	
PAGE TITLE: VREG_DCPL-BULK	REV: 1.3
INTEL 1900 PRAIRIE CITY ROAD FOLSOM, CALIFORNIA 95630	LAST REVISED: 02.04.2004
SHEET: 83/90	

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Wed Feb 11 17:51:37 2004



SCHEMATIC TITLE:			INTEL(R) 875P/5300ESB CUSTOMER REFERENCE BOARD			REV: 1.3		
PAGE TITLE:			CPU VREG			SHEET: 1.3		
INTEL			LAST REVISED: 02.04.2004			SHEET: 1.3		
1900 PRAIRIE CITY ROAD			FOLSOM, CALIFORNIA 95630			87/90		

DRAWING

Wed Feb 11 17:50:51 2004

